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REPORT.

To the Right Honourable Sir CHARLES WOOD, Bart., G.C.B., M.P., Secretary of State for India.

Railway and Telegraph Department, India Office,
12th March 1860.

SIR,

I HAVE the honour, in compliance with your desire, to submit the following Report upon the subject of Railways in India. Being the first Annual Report of the kind, it is perhaps desirable, before noticing the progress which has been made in these undertakings, and before examining the results of those sections which have been brought into operation, to describe briefly the principles upon which a system of railways has been introduced into India, and the plan which has been adopted for their management.

System under which railways have been introduced into India.

2. Two private associations, under the designation of the "East Indian" and the "Great Indian Peninsula" Railway Companies, were formed in the year 1845, but the projectors found it impossible to raise the necessary funds for their proposed schemes, without the assistance of Government. The application for this assistance led to a protracted discussion, which ended in the determination of the late Court of Directors of the East India Company to grant pecuniary assistance, in the shape of guaranteeing interest upon the Railway Capital.

3. Railways are, accordingly, being constructed in India under what is popularly termed the "guarantee" system, *i. e.*, through the instrumentality of Companies, who receive from the Government the guarantee of a certain rate of interest upon the capital expended, with the approval of Government, upon their undertakings. The direct pecuniary interest which, under this arrangement, the Government have in the success of each railway, involved the necessity of some supervision and control, which is provided for in the contracts with the several Companies. The land required for the railway and works connected therewith is also given to the Companies, free of expense, by the Government.

4. A form of agreement, embodying the various provisions of the contracts entered into by the Railway Companies and the Government, is appended. It will be sufficient here to state the principal conditions:—

Terms of the guarantee.

The guarantee, which is for a term of 99 years, applies to all monies paid into the Government Treasury, and expended with the sanction and approval of the Government. When the capital account, which consists of expenditure so sanctioned, is closed, such portion of the subscribed capital as shall not have been required for the purposes of the undertakings is to be returned to the Companies.

The Railway Companies repay the amount advanced by Government on account of the guarantee from the profits of the railways, and the following arrangement is made for the application of those profits. The net receipts from the railways are paid into the Government Treasury. If they amount to less than the sum due for guaranteed interest, such an addition is made to them from the revenues of India as makes up that sum; if they amount to more, half the excess is added to the dividend of the shareholders, and the other half is applied to the repayment of the sums previously paid by Government on account of guaranteed interest; if the receipts should not reach the amount paid for working and maintaining the railway, the deficiency is chargeable against the guaranteed interest. If at any time the whole of the monies paid by the Government for interest (with simple interest thereon) shall have been repaid and discharged, the Companies are entitled, so long as this is the case, to the whole of the profits.

For example, if the railway, upon completion, yields a net profit of 4 per cent., the Government would have to add 1 per cent. (supposing the guarantee to be 5 per cent.) to make up the rate of interest guaranteed; if it yields a profit of 7 per cent., the Government would then pay nothing, but would receive 1 per cent., and the remaining 6 per cent. would be paid as dividend to the shareholders; and when by this process the whole of the sums previously advanced by Government (with interest) is repaid, the shareholders would receive a dividend of 7 per cent. If, on the other hand, the following should be the result of a year's traffic

operations, viz., that the working expenses were 100,000*l.*, and the receipts only 90,000*l.*, 10,000*l.* of the sum paid by Government on account of the guaranteed interest would go to make up the deficiency, and the dividend to shareholders would be rateably reduced.

The Railway Companies have the power of surrendering the works, at any time after any portion of the line has been opened for a period of three months, upon giving six months' notice to the Government, who would have to repay the whole amount that has been expended, with their sanction, on the undertaking.

Government has the power, within six months after the expiration of twenty-five or fifty years respectively from the date of the contracts, of purchasing the railway at the mean market value in London of the shares during the three previous years.

Government is entitled, in the event of the Railway Companies failing to complete the railroads, or to work them satisfactorily, to take possession of them, repaying, within six months, the sums which have been properly expended.

At the expiration of 99 years the land reverts to Government, and, if the Railway Companies have not availed themselves of the power of surrendering before that period arrives, the works also lapse to the Government, who would have to purchase the stock of engines, carriages, &c. at a valuation.

In any case in which, under these provisions, the Government becomes bound to repay the capital, or to purchase the railway, works and stock, it can, instead of paying the gross sum, declare its option to pay an annuity, to be reckoned from the time when the gross payment would be payable, and to continue during the residue of the 99 years, the rate of interest used in calculating such annuity being determined by the average rate of interest during the preceding two years received in London upon securities of the Indian Government.

5. It is not, perhaps, necessary to explain the grounds upon which this system of assistance was made, further than by observing that, as it was decided that private enterprise and capital should be employed on the introduction of railways in India, the Government was obliged to grant the aid requisite to bring that agency into force. Having given such assistance, it was necessary that Government should make arrangements for protecting its own interests, and for providing against the ill effects of failure on the part of the Railway Companies to carry out their undertakings. Hence, in addition to the powers above described, that of supervising the expenditure and all proceedings of the Companies (with the exception of communications with their law officers), as well as the right of selecting the line, was reserved to Government.

6. The supervision is exercised by the Government both in this country and in India. An Official Director is appointed, who attends each Board of the Railway Companies in London, and possesses, under the Deed of Contract, a power of veto on all the proceedings of the Directors. This power has never yet been put into force, a circumstance which a Parliamentary Committee on Indian Railways attributed to "the judgment and discretion exercised by the Official Director on all occasions, and to the respect shown to his opinion." The office is filled by Sir James C. Melvill, K.C.B. At the same time, questions involving expenditure, which have not been considered by the local Governments in India, and all matters of importance, are referred to the Secretary of State for India in Council, with whom also the financial arrangements of the Companies are made.

7. The supervision in India is exercised by the Government, principally through officers appointed for the purpose, the following Rules having been established with the view of preventing delay and collision:—

1st. All questions of general importance shall be referred to Government for decision.

2d. Under the above will be included the general direction of all lines of railway, the position of stations, the general arrangements of the more important stations and works; but after the general sanction of the Government has been given to any project, all questions of detail may be disposed of, within the limit of the original sanction, by the Consulting Engineer.

3d. All matters of routine, or payments, or acts in accordance with rule, precedent, or special agreement duly sanctioned, or undisputed contingent expenditure, may be dealt with by the Consulting Engineer without reference to Government.

4th. All designs, estimates, and indents, whether for works ments, for carrying into effect objects already by Government, may also be disposed of finally b Engineer.

5th. The Consulting Engineer may, without reference to G the amounts of Indents, or direct designs or propos modified, if he thinks it necessary; but the Agen dissatisfied with the decision of the Consulting En request that the matter may be referred for the Government.

6th. In all cases in which the Consulting Engineer has any doubt as to the decision to which he should come, the question should be referred t the Government for orders.

7th. When the sanction of the Consulting Engineer is given to any proposal of the Agent, in which both of these officers concur, excepting in the matters of great importance specially excepted above, the sanction so given shall, so far as the Government is concerned, be considered final.

8th. The Consulting Engineer shall submit to the Secretary of the Government a weekly schedule of his proceedings, in the usual form, in which shall be explained concisely the nature of all sanctions or directions given under the authority now granted to him.

These powers have since been conferred upon every Chief Government Railway Officer in each of the local Administrations.

8. With regard to the regulation of fares, they are, in the first instance, fixed Fares and r with the approval of Government, and alterations in them can only be made by the Railway Companies with the concurrence of the same authority. In the event of the profits exceeding ten per cent., the Government can order a reduction in the rates, but not to such an extent as to bring the net receipts below ten per cent. upon the capital expended.

9. The Railway Companies are also bound, under the contracts, to convey the Mails and Post Office servants free of charge, to take Military Officers in first class carriages at second class fares, and soldiers when on duty in second class carriages at the lowest fares; also horses, guns, waggons, and military stores, &c., at the lowest rate for the time being chargeable for the carriage of such animals, goods, &c.

10. As a rule, the roads are constructed, in the first instance, for a single line of Gauge, &c. rails, the bridges, tunnels, and cuttings being made suitable for a second line. The gauge of all the railways is required by Government to be five feet six inches, which was considered best calculated to embrace the twofold advantages of economy and speed. Arrangements have also been made for preserving uniformity in all points where it is desirable, such as the distance between tracks, height of over openings above rails, breadth of buffers, size of passenger carriages, &c.

11. Before proceeding to give a separate account of each undertaking, I would Parliamentary advert briefly to the complaints which have been made of the delay in the com- inquiry into mencement and construction of these works. So much importance was attached to these allegations, that a Committee of the House of Commons was appointed in 1858 "to inquire into the causes that have led to the delay." The Committee sat from the 3d May to the 8th July. They classified the causes of delays into four distinct heads, viz.,—

1st. Those arising from Government supervision at home and in India.
2d. Those incidental to the execution of extensive and complicated public works, under such circumstances, in a distant country.
3d. Those produced by political causes, such as insurrection and mutiny.
4th. Those arising from the natural difficulties which the face of the country presents.

The Committee came to the conclusion that "though some cases have been cited in which the Government superintendence has been productive of vexation and annoyance to the railway officials," "no very material delay in the construction of the various lines appears to have resulted therefrom." They believed "that the progress of railroads under construction in India will bear favourable com-

t of English lines." They considered that the main impediments isted in the necessity of transporting the materials from this ulties of conveying them to their destination when they reached of the climate upon European constitutions, the failure of he lengthy correspondence between the Directors in London, in India, and the various Government Departments. They nthal rebellion in 1855, and the subsequent mutiny, were pro- rious delays; and that the natural features of the country present formidable difficulties, and involve the d hereafter. construction of vast works," which necessarily postpone the completion of the whole lines.

12. In conclusion, they stated, "your Committee are of opinion, first, that the Government has acted wisely in committing to private enterprise the execution of these great public works; secondly, that a guaranteed interest on the requisite capital was indispensable, to induce the public to invest their money in undertakings of this magnitude and novelty; and thirdly, that, in order to protect the Indian revenue from undue expenditure, Government control over the railway operations is requisite, and even valuable to the interests of the shareholders themselves. At the same time, your Committee would observe that, under a system complicated in its character, and necessarily somewhat cumbrous in its machinery, a system, moreover, the greatest defect of which is the facility it affords for the evasion of responsibility, a clear and distinct definition of the duties, responsibilities, and extent of jurisdiction of all heads of Departments, and those under them, is essentially requisite for its smooth and successful working; always assuming that due care be taken to entrust discretionary power only to men who are to be relied on as competent to distinguish an effective general control from too minute an interference in details. By a judicious adherence to the spirit rather than the letter of the contract, your Committee feel assured that arrangements may be simplified, united action for one common object secured, and railway enterprise in India may before long assume proportions commensurate with the vast commercial, agricultural, and mineral resources of that country."

13. I now propose,—

1st. To describe each undertaking and its object separately;

2dly. To exhibit the results of the traffic on those sections which have been worked;

3dly. To show the financial position of the Railway Companies and the Government in respect to them; and,

4thly. To take a general view of the prospects of these undertakings.

EAST INDIAN RAILWAY.

14. The East Indian Railway embraces a line from Calcutta to Delhi, with branches to Raneegunge, the Barrackur River, and the Singarroo Valley, and a line from Allahabad to Jubbulpore, where it joins the trans-peninsula line from Bombay. Its whole length is 1,338 miles, being 1,138 miles to Delhi, including branches, and about 200 miles for the Jubbulpore line.

15. The main line, after starting from the right bank of the Hooghly at Calcutta, proceeds in a westerly direction to Burdwan, and then on to Rajmahal. From this place to Allahabad it follows the course of the Ganges, in some places touching its right bank, and in others running at a distance of seven or eight miles from it. At Allahabad, where the Ganges and Jumna join, the line crosses the latter river, and then proceeds along the right bank of the former to Cawnpoor, where it strikes across the Dooab to within twenty miles of Agra, which place is connected with the main line by a branch. It then proceeds to Allyghur, a town in the centre of the Dooab, and on to its terminus at Delhi. At this point a bridge will be constructed to connect the East Indian with the Punjab line.

16. The object of the main line is to provide a great highway, for political and commercial purposes, from the capital of the Empire to its North-Western Provinces.

The line to Raneegunge, which branches off at Bordwan, was constructed with the view of affording a ready means for the conveyance to Calcutta of the coal which abounds in the neighbourhood, as well as to assist in the development of the mineral resources of the whole of the district. East Indian Railway.

17. The line to Jubbulpore strikes off at Allahabad and forms a junction with the Great Indian Peninsula Railway, thereby connecting Bombay with Calcutta and Delhi.

18. The first operations of the Company were confined to the line between Calcutta and Raneegunge, a distance of 121 miles, and the contract for executing it was entered into between the East India Company and the Railway Company in August 1849. First operations.

19. The Railway Company had previously been formed by a deed of settlement dated in June 1845, and was incorporated by an Act of Parliament on the 1st August 1849. The engineers obtained possession of the first portion of the land in January 1851, and commenced the work on the lower section of the line in that year. The upper portion was commenced in 1852. In September 1854, 37½ miles were finished and opened for traffic; and in February 1855 the 121 miles to Raneegunge were opened. Thus, in about four years, a line of railway equal in length to the Great Western from London to Bristol was completed, notwithstanding that the engineers, mechanics, and all skilled labourers, as well as the materials, were sent from this country.

20. But the operations of the Company were soon to be greatly extended. In 1853, the Marquis of Dalhousie submitted, for the consideration of the Home Authorities, a general system of trunk railways for India, and the line above described, to Agra and Delhi, was offered to the East Indian Railway Company. Upon their undertaking to construct it, another contract was entered into, and a minimum guarantee of 4½ per cent. on the requisite capital, which was then estimated at 12,000,000*l.* for a single line, was granted by the East India Company. On every occasion on which portions of this capital have been raised by shares, it has been found necessary to increase the rate of interest to 5 per cent. Extended operations.

21. The most formidable obstacles which occur in the course of the line are the rivers, the chief being the Soane and Jumna. The others are the Adjai, More, Keeul, Hullohur, and Tonse. Some of the districts in Lower Bengal present also difficulties in consequence of the inundations which take place there in certain seasons. There is only one tunnel, and that is 900 feet in length, through a rocky hill of quartz in the neighbourhood of Monghyr. Rivers.

22. The bridges have been constructed chiefly with a brick or stone foundation and a wrought iron superstructure. The difficulty in obtaining a sufficient supply of bricks led to the adoption of this plan, which was recommended, moreover, on the ground of economy and expedition, by Mr. M. Rendel, the Consulting Engineer of the Railway Company. The bridges over the Soane and Jumna were designed by Messrs. Rendel. The former consists of 28 spans of 150 feet each, and will be finished, for a single line, as far as the superstructure is concerned, about the end of 1863. The latter consists of 15 spans of 200 feet. The rails will be laid upon the top of the girders, the space beneath being made available for an ordinary carriage road eleven feet in width. They will form two of the finest structures of the kind in the world. Among the smaller bridges are these:

over the river Adjai,	consisting of	32	spans of	50	feet each.
,, More,	,,	24	,,	50	,,
,, Dwarka,	,,	7	,,	60	,,
,, Brahmnee,	,,	9	,,	60	,,
,, Keeul,	,,	9	,,	150	,,
,, Hullohur	,,	4	,,	150	,,
,, Poon-Poon,	,,	6	,,	40	,,
,, Tonse,	,,	7	,,	150	,,

Some idea may be conveyed of the extent of these bridge works, when it is stated that the waterway of the Jumna, the Tonse, the Keeul, and the Hullohur bridges is 3,150 feet, or twice that of all the bridges over the Thames between London and Westminster bridges, inclusive.

East Indian Railway.

28. The following statement will show the length of this railway, now open for traffic, and the periods when the different sections were finished:—

Extent open.

From.	To.	When opened.	No. of Miles.		Length to be finished.
Howrah - -	Hooghly -	15th August 1854 - -	14½		
Hooghly - -	Pundooah -	1st September 1854 - -	23		
Pundooah - -	Raneegunge -	1st February 1855 - -	82		
Bordwan - -	River Adjai -	1st October 1855 - -	23	Total 292½.	About 1,050 miles.
River Adjai -	Cynthea - -	28th August 1859 - -	24		
Allahabad - -	Cawnpore - -	1857, for Government purposes 1859, for general traffic - -	126		

Other portions of the line, the execution of which has been greatly interrupted by the Sonthal rebellion and the mutinies, will, it is expected, be finished in the following order:—

Between Cynthea and Rajmahal, 84 miles, in June 1860.
" Rajmahal and Benares, 333 " 1861 (with the exception of the Soane Bridge, which will not be finished until 1863).

Between Benares and Allahabad, 95 miles, in 1861 (with the exception of the bridge over the Jumna).

Between Cawnpore and Agra, 147 miles, in 1862.
" Agra and Delhi, 142 " 1862.

Persons employed on open sections.

24. A return of the number of persons employed on the completed sections in Bengal only, on the 1st October last, shows there were 3,051 in all, of whom 261 were Europeans, and 2,790 natives. The details will be found in the Appendix.

European staff.

25. The following statement gives the strength of the European staff in each year, from the commencement of operations, and the mortality among it:—

Year.	Number of Covenanted Servants in each Year.	Number of Deaths in each Year.	Percentage of Deaths.	
1850	6	—	—	N.B.—In the "Return of Deaths," those caused by the Mutiny are not included. In the return of "Covenanted Servants" for the years 1858–59, those engaged in India are included in the total number.
1851	12	1	8·33	
1852	29	—	—	
1853	67	—	—	
1854	130	—	—	
1855	183	8	4·37	
1856	247	10	4·05	
1857	297	18	6·06	
1858	494	11	2·22	
1859	526	17	3·23	

26. The cost of the portions which have been finished is calculated at about 3,700,500*l.*; viz.:—

Bengal portion - -	£2,314,500
North-West portion - -	1,386,000

Capital.

27. The capital required for the whole undertaking, including the Jubbulpore line, is estimated at 19,000,000*l.*, but, until more accurate estimates are received from India, authority has only been given for raising 14,000,000*l.* Of this, 11,803,480*l.* had been spent on the 31st December last, and 1,803,182*l.* remained in the Treasury of this office, leaving 393,338*l.* to be raised. Of the sum already subscribed, 13,372,644*l.* was raised in England, and 230,213*l.* in India. On the 31st December last there were 5,857 shareholders, of whom 2,672 were holders of stock or shares of the value of 1,000*l.* and upwards. The expenditure in England for materials, &c., has been 4,293,205*l.*, and in India, for construction, 7,515,275*l.*

28. Before leaving the question of cost, it is, perhaps, right to allude to the effects of the Mutiny upon the operations of the Railway Company. It has been calculated that, after taking into consideration the destruction of the works which took place,

the delay in their construction, and the enhancement of the price of labour and material which followed the Mutiny, 3,000,000*l.* will have been added to the total cost of the railway by that event.

Materials supplied from England.

29. The materials supplied from England consist of iron rails, sleepers, girders for bridges, locomotives, and other rolling stock, turntables, machinery, &c. The tonnage engaged in each year for the conveyance to India of these articles was as follows :—

1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.
Tons. 40,000					Tons. 58,000	Tons. 65,000	Tons. 48,000	Tons. 35,126	Tons. 32,094

Period when Government can purchase the line.

30. In the case of this Company, the first opportunity which Government will have, under Clause 23 of the Contract, of purchasing the railway at its market value, will be in February 1874, as regards the line to Delhi; and in April 1883, as regards the line to Jubbulpore.

Fares.

31. The existing fares are :—

PASSENGERS.

1st Class.	2d Class.	3d Class.
1½ annas, or 2¼*d.* per mile.	9 pies, or 1⅛*d.* per mile.	3 pies, or ⅜ths of 1*d.* per mile.
Or from Calcutta to Raneegunge, a distance of 121 miles,		
Rs. 11. 5. 6., or 1*l.* 2*s.* 6*d.*	Rs. 5. 10. 9., or 11*s.* 4*d.*	Rs. 1. 14. 6., or 3*s.* 10*d.*

GOODS.

1st class goods - - - -	½ of a pie per maund* per mile.
2d „ „ - - - -	⅜ „ „ „
3d „ „ - - - -	¼ „ „ „
4th „ „ - - - -	1 pie per maund „
5th „ „ - - - -	2 pies „ „

* The maund is equal to about 82 lbs.

See Appendix.

Amount paid for guaranteed interest.

32. The amount paid by Government on account of guaranteed interest, in each official year (ending 30th April), is shown below :—

Year.	Amount.
	£ *s.* *d.*
1849–50 - -	5,601 17 1
1850–51 - -	17,471 2 10
1851–52 - -	37,184 14 7
1852–53 - -	45,233 14 4
1853–54 - -	52,071 10 4
1854–55 - -	88,884 3 1
1855–56 - -	195,730 0 2
1856–57 - -	297,390 3 7
1857–58 - -	354,510 14 5
1858–59 - -	433,967 17 11
Total - -	£1,528,045 18 4

26
57
1

Profits.

The net profits paid by the Railway Company to 30th June 1859 is 325,405*l.* 3*s.* 4*d.*, viz. :—

Year ending 30th June	Amount.
	£ *s.* *d.*
1855 - -	10,631 1 7
1856 - -	48,412 14 6
1857 - -	69,484 3 7
1858 - -	87,724 19 4
1859 - -	109,403 17 5
Total - -	£325,656 16 5

GREAT INDIAN PENINSULA RAILWAY.

Great Indian Peninsula Railway.

33. The Great Indian Peninsula Railway commences in the island of Bombay, and proceeds inland a distance of 33 miles to the town of Callian, where it branches off in north-easterly and south-easterly directions. The first line is carried over the Thull Ghat to Asseerghur, and by the valley of the Nerbudda to Jubbulpore, where it joins the Allahabad line of the East Indian Railway. The second is taken over the Bhore Ghat to Poonah, and on by Sholapore towards Madras, the line from which place joins it in the Raichore Dooab. There is an important branch which diverges from the North-East main line at Bhosawul, near Nusseerabad, and passes through the great cotton district of Oomrawuttee to Nagpore. There is also a small branch of one mile and three quarters, close to Bombay, connecting that town with Mahim, and a temporary one, of seven miles length, from Padusdhurree, where the main line commences the ascent of the Bhore Ghat, to Campoolie, a village on the old road from Bombay to Poonah.

Extent of line.

34. The entire length of these lines is 1,266 miles, being

34¼	miles from	Bombay to Callian, and branch to Mahim.
572¾	,,	Callian to Jubbulpore.
389	,,	Callian to junction with Madras line.
263	,,	Nagpore Branch.
7½	,,	Campoolie Branch.

35. The objects of this undertaking are to assist in establishing a permanent and speedy means of communication, for political and commercial purposes, between the three Presidency towns, and to connect the great cotton growing districts of Central India with the seaport of Bombay.

First operations.

36. As in the case of the East Indian Railway, the first operations of the Company were very limited, being confined to a railway from Bombay to Callian. A contract for the construction of this line was entered into by the Railway Company and the East India Company in August 1849. They obtained their Act of Incorporation in the same month. The works were commenced in India in October 1850, and finished in May 1854. In August 1853 another contract was entered into with the Railway Company to continue the line to Shawpoor, a place sixteen miles nearer the Thull Ghat, and to employ upon this additional length that portion of the 500,000*l.* which had not been expended upon the first section. This sum, however, did not prove to be sufficient.

37. In November 1854, the Company engaged to execute the extension lines above described, a *minimum* interest of four and a half per cent. being guaranteed upon the capital required for the works. This rate has been increased to five per cent. whenever shares have been issued.

Physical difficulties.

38. The great physical difficulties which occur in the course of the railway are the mountains which separate Bombay from the Deccan, the ascent of which involves works of extraordinary magnitude and interest. Running parallel to the sea for many miles, this range has always formed a great barrier to the communication between the rich producing countries of the interior and the Port of Bombay. They will now be surmounted by the railway in its route both to the North-East and South-East. The former line crossing by the Thull Ghat, at an elevation of 1,912 feet above the level of the sea, the latter by the Bhore Ghat, at an elevation of 2,037 feet.

39. The incline up the Thull Ghat is nine miles in length; the total elevation is 972 feet; the steepest gradient is 1 in 37 for 4 miles 44 chains; the sharpest curve is 15 chains radius for 20 chains 50 links; the length of tunnelling is 1,962 yards, and the estimated cost 49,988*l.* per mile. The Bhore Ghat incline is 14 miles in length. Its total elevation is 1,831 feet; average gradient 1 in 48; its steepest gradients are 1 in 37 for 1 mile 38 chains, and 1 in 40 for 8 miles 6 chains; its sharpest curves being 1 of 15 and 2 of 20 chains radius. Length of tunnelling 1 mile 44 chains. The estimated cost per mile is about 48,188*l.*

40. Besides these works, there are several bridges of considerable magnitude, including the viaduct over the Tannah estuary, which is carried on masonry arches of 30 feet span. This viaduct is divided, one portion consisting of nine arches, another of 14, and between the two is an iron girder opening of 84 feet span. The other important bridges are those over the rivers Taptee, Nerbudda, Wangoon,

and Bola on the North-East line; and the Beema, Seena, and Moola on the South-East line. One source of difficulty which has been experienced in the construction of bridges on railways in other parts of India is not felt in these works, as most of them are built on good rock foundations. Great Indian Peninsula Railway.

41. The following statement will show the extent of this railway open for traffic on the 31st December, and the periods when the different sections were finished:— Extent open.

Bombay to Tannah, and Branch to Mahim	22¼ miles,	was opened	18th April 1853.
Tannah to Callian	12¾ „	„	1st May 1854.
Callian to Wassind	16¼ „	„	1st Oct. 1855.
Callian to Campoolie	37¾ „	„	12th May 1856.
(The Ghat incline intervenes between Campoolie and Khandalla.)			
Khandalla to Poonah	41¾ „	„	14th June 1858.
Poonah to Decksal	64¼ „	„	15th Dec. 1858.
Decksal to Barsee Road	50½ „	„	24th Oct. 1859.
Total	245½ miles.		

42. The section from Barsee Road to Mohole, 28 miles, was opened on the 2d January 1860. The remaining portions of the line will, it is estimated, be finished by the periods specified below, viz.:—

From Mohole to Sholapore, 25 miles, in March 1860.
„ Sholapore to the junction with the Madras line, 136 miles, in 1862.
„ Wassind to foot of Thull Ghat, 25 miles, in August 1860.
The Bhore Ghat Incline, 13¾ miles, in April 1862.
„ Thull Ghat Incline, nine miles, in 1861.
From the summit of the Thull Ghat to Munmar, 77 miles, in July 1860.
„ Munmar to Bhosawal, 113 miles, in 1861.
„ Bhosawal to Jubbulpore, 332 miles, in 1862.
From Bhosawal to Oomrawuttee, 143 miles, in September 1862.
From Oomrawuttee to Nagpore, 120 miles, in April 1863.

The number of persons employed on the open portion of the line on the 1st October last was 2,598, consisting of 255 Europeans and 2,343 natives. Persons employed on open portion.

43. The number of Europeans employed in the construction of the line, and the mortality amongst them, has been as follows:— European staff.

Year.	Number of European Staff.	Deaths.	Deaths per Cent.
1850	11	1	9·09
1851	11	—	—
1852	23	—	—
1853	31	—	—
1854	44	2	4·54
1855	51	1	1·96
1856	80	3	3·75
1857	117	2	1·70
1858	153	6	3·92
1859	212	5	2·35
10 Years -	733	20	—
Average per annum -	73·3	2	2·72

44. The total cost of the undertaking is estimated at 12,000,000*l.*; of this 5,641,634*l.* had been raised on the 31st December last, 5,308,334*l.* by shares, and 333,300*l.* by debentures, upon the whole of which five per cent. has been guaranteed. The amount raised in this country was 5,298,044*l.*; in India, 343,590*l.* The number of shareholders on the 31st December, was 3,860, of whom 1,660 held shares or stock of more than 1,000*l.* value. The expenditure of the Company, up to the 31st December, has been 4,915,943*l.* of which 2,510,850*l.* was spent in this country, and 2,405,093*l.* in India. Capital.

45. The first period at which Government can exercise its right of purchase will be in August 1774. Government rights of purchase.

Great Indian Peninsula Railway.

46. The following statement shows the amount of tonnage engaged by the Company in each year from the commencement of its operations:—

Tonnage for materials.

1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.
Tons. 927	Tons. 6,584	Tons. 4,925	Tons. 6,132	Tons. 3,850	Tons. 12,870	Tons. 26,668	Tons. 33,117	Tons. 63,032	Tons. 50,228

Fares.

47. The existing fares are:—

PASSENGERS.

1st class, 1½ annas, or 2¼*d.* per mile;
2d „ 6 pies, or ¾*d.* per mile;
3d „ 3 pies, or ⅜*d.* per mile;

or from Bombay to Tannah, a distance of about 20½ miles,

	Rs. an. p.				s.	d.
1st class - - -	1	15	6	or rather less than	2	0
2d „ - - -	0	10	6	or about - -	1	4
3d „ - - -	0	5	3	or about - -	0	8

GOODS.

See Appendix.

1st class 10 pies, or 1¼*d.* per ton per mile.
2d „ 14 „ 1¾*d.* „ „
3d „ 18 „ 2¼*d.* „ „
4th „ 22 „ 2¾*d.* „ „
5th „ 30 „ 3¾*d.* „ „

Profits.

48. The amount paid by this Company, in liquidation of the Government guarantee, up to the 31st December last, was 181,698*l.* 7*s.* 9*d.*, being

In the Year ending 30th June	£	s.	d.
1854 - - -	7,122	4	2
1855 - -	3,771	12	7
1856 - - -	11,413	14	0
1857 - - -	33,823	16	1
1858 - - -	42,561	16	8
1859 - - -	83,005	4	3
Total - -	£181,698	7	9

Amount paid for guaranteed interest.

The amount of guaranteed interest received by the Company in each year, on capital raised in England and in India, is as under:—

Year ending 30th April	England.	India.
	£	£
1850	3,063	—
1851	6,319	—
1852	11,972	4,338
1853	17,787	5,038
1854	19,301	5,701
1855	23,859	6,400
1856	52,286	8,084
1857	102,181	14,431
1858	159,243	16,046
1859	171,985	16,870
	£567,996	£76,908
Total - -	£644,904	

MADRAS RAILWAY.

Madras Railway.

49. The Madras Railway commences at Madras, and proceeds in a westerly direction as far as a place called Arconum, where it bifurcates, one line taking a south-westerly direction, and terminating at Beypore on the western coast, the other proceeding in a north-westerly direction, through Cuddapah and Bellary, and ultimately joining the railway from Bombay. Two branches strike off from the South-Western line, viz., one to Bangalore and another to the foot of the Neilgherries. These lines were sanctioned chiefly with the view of developing the resources of this part of the country, and of securing those political and social advantages which may be expected from the connexion with the Presidency of

two such important military and sanatorial stations as Bangalore and Ootacamund. The North-West line forms a part of that system of railways which was designed to connect the seats of the Governments of the three Presidencies, and is intended to answer important commercial purposes, by affording a ready means of transit for the produce of the Cuddapah and Bellary Provinces. Madras Railway.

50. The length of these several lines is as under :— Extent.

Madras to Beypore		405 miles.	
Bangalore Branch		85	,,
Branch to the Neilgherry Hills		30	,,
Arconum to Cuddapah	122		
Cuddapah to Bellary	149	330	,,
Bellary to the Point Junction with the line from Bombay	59		
Total		850	,,

51. The Madras Railway Company was established by a deed of settlement, bearing date the 26th of July 1852, and was incorporated in 1853 by an Act of Parliament, 16 Vict. c. xlvi. The first contract between the Government and the Railway Company, which is dated 22d December 1852, was for the construction of an experimental line, at an estimated cost of 500,000*l.* to commence at or near Madras, and to take a direction towards the western coast. The line selected by the local Government was from Madras to Menil, fifty miles in length, and the first sod was turned on the 9th June 1853. Before much progress was made, it was agreed that the line should be extended to the western coast, and a contract for the purpose was executed in December 1855. A further contract for the construction of the North-West line was entered into in August 1858. Constitution of Company.

52. The first section of the railway, viz., from Madras to Arcot, a distance of sixty-five miles, was opened to the public on the 1st July 1856, three years after the commencement of operations, the Governor General (Lord Canning) and his staff having made an experimental trip four months earlier. The following statement shows when the sections, which constituted the line open in 1859, were severally finished :— Extent open.

	Length of Section.	When opened for Traffic.	
Madras to Arcot	64 miles	1st July 1856.	*Note.*—Since the 1st January, 1860, 41 miles more have been opened, making 137 miles in all.
Arcot to Vellore	17 ,,	7th May 1857.	
Vellore to Gorriattum	15 ,,	11th May 1858.	
Total	96 miles.		

53. The country through which the line to the western coast passes is generally favourable for railway operations, the only difficulties being the rivers, the principal of which are the Poiney, the Gorriattum, the Palar, the Cauvery, the Thootha, and the Kuddulhoondy. These are, in most cases, crossed by bridges of masonry, formed of arches of thirty feet span. The superstructures of some, however, viz., those over the Palar, the Cauvery, and the Thootha, will consist in whole or in part of iron, Physical difficulties.

54. The line to Bellary and Moodgul, where it joins that from Bombay, is not so free from difficulties as the South-West line. It is intersected by twelve rivers, requiring upwards of three miles of bridging, and is crossed by two ranges of hills, one of which can only be surmounted by resorting to comparatively severe gradients.

55. The portion of the South-West line which is in course of construction is so far progressed, that it is expected that the whole of the railway to the western coast will be ready for traffic during the current year. Little more has been done on the Bellary and Bangalore lines than setting them out, and the Neilgherry branch has not yet been commenced.

56. The number of individuals employed on the open section on the 1st October 1859 was :— Persons employed on open line.

Europeans	74
East Indians	147
Natives	2,575
Total	2,796

Madras Railway.

European staff.

57. The following is a statement of the strength of the European staff of Engineer, &c., appointed from this country during each year, from the commencement of operations, and the mortality amongst it:—

Year.	Number of European Staff.	Deaths.	Deaths per cent.
1853	11	—	—
1854	25	—	—
1855	57	1	1·75
1856	84	—	—
1857	107	2	1·86
1858	118	2	1·69
1859	123	2	1·62
7 years -	525	7	—
Average per annum - -	75	1	1·33

Capital.

58. The estimated amount of capital required to complete the works is 8,500,000*l.* Of the sum (5,000,000*l.*) which has been already authorized, 3,898,427*l.* (including 347,900*l.* raised by means of debentures), the whole of which has been subscribed in England, was paid up on the 31st December. Half a million of share capital has been issued at a guaranteed interest of four and a half per cent., one million at four and three quarters per cent., and the remainder at five per cent., which latter rate is that guaranteed for loans on debentures. On the 31st December last, the capital was held by 2,056 shareholders, of whom 1,033 were holders of stock or shares above the value of 1,000*l.*

59. The expenditure in England for materials, management, &c., from the commencement to the 31st December last, has been 1,505,462*l.*, and in India, for construction, 2,292,989*l.*

Supplies from England.

60. The materials supplied from England are similar to those sent out by the East Indian Railway Company. The tonnage engaged in each year for their conveyance was as follows:—

1853.	1854.	1855.	1856.	1857.	1858.	1859.
Tons. 1,415	Tons. 13,367	Tons. 40,772	Tons. 23,727	Tons. 5,877	Tons. 13,989	Tons. 37,407

Period at which Government can purchase line.

61. In the case of this Company, the first opportunity which the Government will have of purchasing the railway at the market value of the shares, will be, so far as the line to the western coast is concerned, in December 1880, and as regards the line to Bellary, in August 1883.

Amount paid for guaranteed interest.

62. The amount paid by Government on account of guaranteed interest is shown below:—

Year ending 30th April	Amount.
	£
1854	9,703
1855	18,115
1856	42,510
1857	81,139
1858	109,267
1859	131,001
Total - -	391,735

Profits.

The precise sum paid by the Railway in liquidation of the Government claim on account of guaranteed interest cannot as yet be given, as certain charges remain to be adjusted, but up to 30th June 1859 it probably amounted in round numbers to 46,500*l.*

63. The rates and fares at present in use are,— Madras Railway Fares.

Passengers.	
1st Class	1 anna, or 1½*d.* per mile.
2d „	6 pies, or ¾ „
3d „	2 „ or ¼ „
Goods.	
1st Class	8 pies, or 1*d.* per ton per mile.
2d „	10 „ or 1¼ „ „
3d „	1 anna, or 1½ „ „

See Appendix.

SIND RAILWAY COMPANY.

64. The Sind Railway Company was formed, by a deed of settlement dated March 1855, for the purpose of constructing railways in India, and, in particular, one from the seaport of Kurrachee to a point on the Indus at or near Hyderabad. The Company was subsequently incorporated by an Act of Parliament in July 1855, and on the 26th December of the same year they entered into a contract with the East India Company for the construction of the line indicated above. Sind Railway Company.

65. Before describing the progress of this undertaking, it may be as well to state that the constitution of the Company was greatly modified by an Act which passed in August 1857. This enactment, while it upheld all existing rights and privileges, annulled the deed of settlement, repealed the previous Act, and granted the Railway Company power to extend their operations. It allowed them to enter into contracts with Government for the construction of railroads in the Punjab, &c., and for the building and working of steam boats and other vessels.

66. In pursuance of the powers thus given, the Railway Company have entered into the following contracts with Government, viz.:—A contract, dated the 7th February 1859, for the establishment of a steam flotilla on the river Indus, for the conveyance of passengers and goods between Kotree, the port of Hyderabad and one of the termini of the Sind Railway, and Moultan, one of the termini of the Punjab Railway; and a contract, dated the 4th March 1859, for the construction and working of a railway in the Punjab, between Moultan and Umritser. They have also undertaken to construct the line from Lahore to Umritser to Delhi.

67. The three concerns are kept separate and distinct, although conducted through the agency of one company, under the designation of "The Sind Railway Company." The capital raised for each particular work is kept under the heads of "Sind Railway Capital," "Punjab Railway Capital," and "Indus Steam Flotilla Capital," and one Board administers the affairs of the three Companies.

68. The great object contemplated in these combined undertakings is the establishment of a sure and speedy means of communication between the port of Kurrachee in Sind, and the Punjab; as well as the connexion of Lahore and the North-West frontier of India, with Calcutta on the one side, and the Western Coast on the other.

Sind Railway.

69. The line in Sind proceeds from Kurrachee to Kotree on the Indus, opposite to Hyderabad. Its length, including a branch to Ghizree Bunder, is 114 miles. The most important works are bridges and viaducts, of which there are several of considerable size, that over the Bahrum river being 600 yards in length; the next largest (560 yards) is that over the Mulleer. Other works of magnitude are, an embankment across a valley at Dorbejee, required to protect the line from the effects of inundation, and the wharf and steam ferry at Kotree. Sind Railway.

70. The soil is not favourable for works of excavation, being in general a mixture of sand and clay, often with a hard crust of from one to two feet in thickness; and near the Karatolla Hills a number of rocky ridges have to be cut through. A further difficulty, which has to be contended with, is a scarcity in the supply of water. This will not be felt when the line is completed, as the watering stations will be fixed at places where there is abundance; but for the construction of the works it has, in some instances, to be brought a distance of many miles. The want of a supply of labour has also been much felt.

71. The first sod was cut by Sir Bartle Frere in April 1858. The works have hitherto been retarded in consequence of the pecuniary difficulties of the contractor, Commencement.

Sind Railway.

who has lately abandoned his contract. The line is now being finished by the Company, and the resident engineer reports that rapid progress has been made since it has come into their hands. It is anticipated that the works will be completed and the railway opened for traffic by the end of the present year.

European staff.

72. The following statement shows the strength of the Engineering Staff in each year since the commencement, and the rate of mortality amongst them :—

Year.	Number of European Staff.	Deaths.	Deaths per cent.
1855	7	—	—
1856	6	—	—
1857	2	—	—
1858	25	2 (on the passage out.)	—
1859	3	—	—

Capital.

73. A capital of 1,000,000*l.** which was estimated to be required for the line, has been sanctioned on a guaranteed interest of five per cent. per annum. £914,787 of this capital had been paid into the Government Treasury on the 31st December, leaving 85,213*l.* still to be raised. The expenditure in England for materials, freight, and management has been 554,985*l.*, and in India 328,801*l.* on construction. The amount in the hands of the Government to the credit of the Railway Company on the 31st December was 31,001*l.* Of the paid up capital, 894,340*l.* has been subscribed in England, and 20,447*l.* in India, and on the 31st December this was held by 619 proprietors, of whom 328 possessed shares to the value of 1,000*l.* and upwards.

* This sum will be exceeded.

Tonnage.

74. The tonnage engaged in each year for the conveyance of materials has been,—

1856.	1857.	1858.	1859.
Tons. 8,225	Tons. 19,742	Tons. 16,385	Tons. 26,469

Period at which Government can purchase the line.

75. Government will not be in a position to exercise the power reserved to it by the twenty-second clause of the contract, of purchasing the line at its market value, before the close of the year 1880.

Punjab Railway (Moultan and Umritser Line).

Punjab Railway.

76. The line selected, in accordance with the terms of the contract of March 1859, viz., from Moultan to Lahore and Umritser, is 250 miles in length. It is carried by the low water-shed of the Dooab (between the Ravee and Sutlej), and presents very favourable gradients. For sections of 30, 40, and 100 miles respectively the line keeps a straight course. There are several watercourses to be crossed, but, with the exception of a few near Moultan, the necessary works are mere culverts.

Commencement.

77. It is estimated that the railway will be completed within a period of four years from the commencement. Some earthwork had been done previous to the formal commencement of operations by Sir John Lawrence on the 8th February 1859, and much progress has since been made on the line between Lahore and Umritser, which section, it is expected, will be finished and opened for traffic before the close of the present year.

European staff.

78. The European Engineering Staff consisted in each year, as follows :—

Year.	Number of Servants.	Deaths.	Deaths per cent.
1856	7	—	—
1857	—	—	—
1858	32	—	—
1859	45	1	2·5

79. The amount required for completing the railway will probably be two millions. Capital to the extent of 1,500,000*l.* has been issued, at a guaranteed interest of five per cent. Of this sum, 506,945*l.* had been paid into the Government Treasury on the 31st December, leaving 993,055*l.* still to be raised. In England, the expenditure for materials, freight, and management, has amounted to 164,419*l.*; in India, about 80,000*l.* has been expended on the works; leaving a balance standing to the credit of the Railway Company of 262,546*l.* The above capital has been subscribed in England, with the exception of 559 shares held by 21 shareholders in India. On the 31st December, the capital was held by 700 shareholders, of whom 402 were holders of stock or shares of the value of 1,000*l.* and upwards. Punjab Railway. Capital.

80. The freight engaged for the conveyance of the materials to India has been 12,293 tons, all of which was taken up in the year 1859. Tonnage.

81. The first opportunity which Government will have of purchasing the railway at its market value, under Clause 22 of the Contract, will be in 1884. Period at which Government can purchase the line

Punjab Railway (Delhi Line).

82. On the 27th January 1859, in accordance with the recommendation of the Government of India, the construction of a line to connect the Punjab with Delhi was granted to the Scinde and Punjab Railway Company, with five per cent. guaranteed on the requisite capital, on the usual terms. Engineers have been already engaged in surveying two routes, one from Lahore *viâ* Ferozepore, and the other from Umritser *viâ* Loodianna and Umballa, along the line of the Grand Trunk Road. It is expected that the detailed plans and estimates of the route approved by Government will shortly arrive in England. Delhi Line.

Indus Steam Flotilla.

83. The fleet sanctioned for this undertaking consists of fifty-three vessels, viz.:— Indus Steam Flotilla.

7 Passenger Steamers,
6 Towing „
33 Cargo Barges,
and 7 Accommodation Flats.

The boat recommended by a Commission appointed in 1857 to consider the best description of vessel suited to the navigation of shallow Indian rivers has been adopted, with slight modifications, to meet the requirements of the service. The dimensions of the passenger steamers are:—

Length, 200 feet.
Breadth, 38 „
Depth, 6 „
Draught, 2 „

The whole of these vessels have been built under contract, and the following have arrived at Kurrachee:—

1 Passenger Steam Vessel.
6 Towing Steamers.
25 Cargo Barges.

The remainder are in course of delivery, and it is expected that the traffic will commence before the close of the present year. One steamer of each class was built and tested, to the satisfaction of the Directors in England, before contracts for the remainder were entered into.

84. The capital authorized for the undertaking, and upon which five per cent. interest has been guaranteed, is 250,000*l.* The whole of this had been subscribed for, and 249,140*l.* lodged in the Government Treasury on the 31st December, leaving 860*l.* still to be paid up. It has all been subscribed in this country. The expenditure in England, on materials, freight, and management, amounted to 158,654*l.*; in India, to 5,925*l.*; leaving a balance standing to the Company's Capital.

Indus Steam Flotilla.

credit, on the 31st December, of 84,561*l.* The capital is held by 289 shareholders, of whom 89 are holders of shares of the value of 1,000*l.* and upwards.

Period at which Government can purchase the line.

85. The earliest period at which Government can purchase the concern, under Clause 22 of the Contract, will be in 1884.

Trade of Sind.

86. The following statement, showing the extraordinary increase in the trade of Sind during the last ten years, affords satisfactory evidence of the progress of the Province, which is an important element in considering the prospects of the railways and flotilla:—

Year.	Imports.	Exports.	Total.
	£	£	£
1848–49	344,715	107,133	451,849
1849–50	419,352	114,378	533,731
1850–51	425,831	196,461	622,293
1851–52	489,220	244,122	733,343
1852–53	535,690	376,337	800,000
1853–54	508,798	376,310	885,103
1854–55	575,196	346,893	922,089
1855–56	629,813	604,440	1,234,253
1856–57	685,665	734,522	1,420,187
1857–58	1,081,100	1,078,100	2,159,200
1858–59	1,540,600	1,044,200	2,584,800

Tonnage.

87. The tonnage engaged during the past year for the conveyance of steamers and stores to India has been 1,843 tons.

BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY.

Bombay, Baroda, and Central India Railway.

88. This Railway commences at Bombay, and proceeds in a northerly direction, through Surat and Broach, to Baroda, where it branches off to Ahmedabad. The whole distance is 309½ miles, being from Bombay to Baroda 245½ miles, from Baroda to Ahmedabad 64 miles.

89. The object of the line is to connect Bombay with the cotton districts of Guzerat; but the projectors of the undertaking, when it was originally proposed, contemplated the construction of a line from Bombay, *vid* Surat and Baroda, to Agra, with a branch from Surat through the Taptee Valley, to join the East Indian Railway at or near to Agra or Delhi.

Commencement.

90. In consequence of doubts existing as to the best route for the section between Bombay and Surat, the Railway Company were required to commence their operations from the latter place, and to work up to Baroda and Ahmedabad. This portion was sanctioned in April 1855; the remainder of the line to Bombay not until April 1858. The Company was incorporated by Act of Parliament in July 1855, and in November 1855 they entered into a contract with the East India Company.

91. The cutting of the first sod took place in May 1856, and it was expected that the line from Surat to Broach would have been opened for traffic in October last. This expectation, however, was not realized, in consequence of the breaking down of a masonry abutment at fourteen miles from the latter place. But by accounts recently received from Bombay the opening of this section, (with the exception of the bridges over the Taptee and Nerbudda,) on the 7th February 1860, is advised.

Physical character of the country.

92. The country through which the line passes is low and flat; is crossed by several wide and rapid rivers; and at certain seasons is inundated to a great extent. The crossing of these rivers, and the provision of waterway for the floods, have been the principal impediments to the progress of the works. The aggregate of bridge work amounts to nearly six miles. The bridges are designed by Lieutenant-Colonel P. Kennedy, and consist* of wrought-iron girders of sixty feet

Bridges.

* The constituent parts, both of girders and piers, are respectively similar throughout, with a view to facilitate their erection on reaching India, so that each portion of bridge work sent from England fits with all that have preceded or may follow it, and therefore can be brought into use

together for the bridging of any river whatever. About two-thirds of the bridge materials for the entire line have been furnished, and the remainder is in progress of construction.

span, supported by cast-iron screw piles, connected by strong diagonal and horizontal bracing. The piers and abutments are constructed for a double roadway, but girders for one line only have been laid down. The bridge over the Taptee is 2,003 feet in length, and will have thirty-two openings of sixty feet each, and that over the Nerbudda is 3,750 feet in length, and will have sixty openings of sixty feet each.

Bombay, Baroda, and Central India Railway.

93. The number of European Engineers, &c. employed in each year since the commencement of the works, and the mortality amongst them, has been as follows:—

European staff.

Year.	Number of Servants.	Deaths.	Percentage of Deaths.
1853	14	—	—
1854	14	—	—
1855	28	2	7·1
1856	34	1	2·7
1857	50	1	—
1858	78	3	—
1859	124	4	—

94. The total cost of the line sanctioned is estimated at 2,500,000*l.*, or about 7,400*l.* per mile. On the 31st December last, the Company had raised 1,503,965*l.*, of which 891,032*l.* had been spent in England, and 573,799*l.* in India, leaving a balance of 39,134*l.* in the Treasury of this Office. Of the above amount, 1,485,923*l.* was raised in this country, and 18,042*l.* in India. On the 31st December last, the capital was divided among 906 proprietors, of whom 356 were holders of stock or shares of more than 1,000*l.* value.

Capital.

95. The tonnage engaged in each year since the commencement of operations, for the conveyance of the materials to India, has been as follows:—

1856.	1857.	1858.	1859.
Tons. 3,215	Tons. 16,367	Tons. 19,313	Tons. 31,075

96. The first opportunity which Government will have, under the existing contracts, of purchasing the railway, will be in November 1880.

Period at which Government can purchase the line.

EASTERN BENGAL RAILWAY.

97. The Eastern Bengal Railway Company was formed in 1857, for the purpose of affording railway accommodation to the districts lying north and east of Calcutta. The line sanctioned is from Calcutta to Kooshtee on the Ganges, opposite Pubnah, where it will intercept the large traffic proceeding downwards. It will also enable merchants to send up their goods from Calcutta without encountering the dangers and delays of the navigation of the Soonderbunds. It is intended eventually intended to carry the railway to Serajgunge and Dacca; and, upon the strong recommendation of the Government of India, the immediate prosecution of the surveys has recently been sanctioned, and they are now being proceeded with. The districts traversed are rich in agricultural produce, which consists of indigo, sugar, oil-seeds, rice, and other grain;, and they are thickly populated, containing upwards of 500 inhabitants to the square mile.

Eastern Bengal Railway.

98. The Company was incorporated by Act of Parliament in August 1857, and a contract was entered into on the 30th July 1858, between the Railway Company and the East India Company, under which the line to the Ganges is being constructed. By this agreement, interest at the rate of five per cent. is guaranteed, upon the usual terms, on the capital required for the work, which was at that time estimated at 1,000,000*l.* This amount will, however, be exceeded. Although the contract only guarantees five per cent. on the capital which may

Incorporation, &c.

Eastern Bengal Railway.

be required for the first section of the line, which is 109½ miles in length, it provides that the railway shall ultimately be carried to Dacca, &c., for which extensions fresh capital will have to be raised.

Contract for works.

99. The construction of the railway, and the provision of the necessary rolling stock, have been entrusted to a firm of well known contractors, consisting of Messrs. Brassey, Sir Joseph Paxton, and Wythes, who have engaged to complete the line, and furnish the requisite stock, for 1,045,000*l.* This is exclusive of the cost of rails and chairs, which are to be provided by the Railway Company. The works were commenced on the 16th April 1859, and by the last accounts they were proceeding satisfactorily. Under the terms of the contract with Messrs. Brassey and Co., the line should be completed by 30th April 1861.

Capital.

100. The amount of capital paid into the Government Treasury by the Railway Company to the 31st December last in England, and in India, was 427,458*l.*, leaving 572,542*l.* still to be raised. Of the above sum, 424,773*l.* was subscribed in this country, and 2,685*l.* in India. The capital subscribed in this country was held by 425 shareholders, of whom 113 held shares of the value of 1,000*l.* and upwards. The capital raised in India was held by 31 shareholders, none of whom held shares of the value of 1,000*l.* The expenditure of the Company to the 31st December was, in England, for management, materials, and freight, 130,219*l.*; in India, for construction, 46,481*l.*; making a total of 176,700*l.*, and leaving a balance of 250,758*l.* standing to the credit of the Railway Company in the hands of Government.

Tonnage.

101. The freight engaged by the Contractors to the 31st December was 12,569 tons.

Period at which Government can purchase the line.

102. The date at which Government can first exercise its right of purchase will be in August 1883.

103. It is possible that the operations of this Company may not be confined to those above described, for it has been decided, in accordance with the recommendation of the Government of India, that, should a line to Darjeeling be at any time sanctioned on the guarantee system, they shall be entrusted with its execution.

GREAT SOUTHERN OF INDIA RAILWAY.

Great Southern of India Railway.

104. The Great Southern of India Railway Company was constituted in 1857, by articles of association under the "Joint Stock Companies Act, 1856," for the purpose of constructing and working railways in the Southern Provinces of India, and was incorporated by Act of Parliament in 1858. The lines included in the undertaking are from Negapatam to Trichinopoly, with extensions north to a point on the Madras Railway (probably in the neighbourhood of Errode) and south to Madura and Tuticorin. The only portion of this work the construction of which has at present been sanctioned is the line from Negapatam on the coast to Trichinopoly. For the execution of this section, a contract was entered into between the East India Company and the Railway Company on the 1st September 1858. A guarantee of interest at the rate of 5 per cent. has been granted on the requisite capital, which is estimated at 500,000*l.* The length of line is about 80 miles, and the country traversed is represented to be peculiarly favourable for railway operations. No physical difficulties present themselves, and good ballast is plentiful. The chief object contemplated is to provide outlets to the rich producing districts traversed by the railway. The whole neighbouring country is under cultivation, and rice and cotton are extensively grown. In addition to this, silks, cotton goods, and muslins are manufactured in great quantities.

105. It was at one time intended that a light description of railway should be constructed by Government on this very line, and instructions were sent out by the late Court of Directors for the purpose; but it was found that the cost would be so much greater than had been originally estimated, and that the object of the work would be better answered by a permanent line suitable to steam locomotion, that the arrangement was superseded by the agreement with the Great Southern of India Railway Company, above described.

Commencement.

106. The staking out of the line was concluded, and active operations commenced in May 1859, and tolerable progress has since been made. It is estimated that the line will be completed in the summer of 1861.

107. The amount of capital paid up on the 31st December was 196,221*l.*, of which 195,000*l.* was subscribed in this country, and 1,221*l.* in India. The capital was held by 170 shareholders, of whom 97 were holders of shares to the value of 1,000*l.* and upwards. The expenditure of the Company, in this country, on materials and management, up to the 31st December, had been 112,002*l.*; and in India, for construction, it is estimated that about 25,000*l.* had been disbursed; making a total of 137,002*l.*, and leaving a balance to the credit of the Railway Company in the Government Treasury of 59,219*l.* Great Southern of India Railway. Capital.

108. The date at which Government can first exercise its right of purchase, under the terms of the contract, is in September 1883. Date at which Government can exercise its right of purchase.

CALCUTTA AND SOUTH-EASTERN RAILWAY.

109. The Calcutta and South-Eastern Railway was registered, under the provisions of the "Joint Stock Companies Act of 1856," for the purpose of constructing and maintaining a railway or railways in India, and particularly a line from Calcutta to the Mutlah River, together with such wet docks and works as might be deemed necessary. Certain powers similar to those granted to Companies which have been incorporated, were conferred on this Company by Act of Parliament, in July 1857. Calcutta and South-Eastern Railway.

110. After an unsuccessful attempt to obtain capital for the undertaking, without the assistance of a guarantee of interest, that aid was conceded by the Secretary of State in Council. The operations of the Company are limited to the line between Calcutta and the Mutlah. The rate of interest guaranteed is 5 per cent. per annum on the capital required for this work, which is estimated to cost 250,000*l.* A contract, embodying the usual conditions, was entered into between the Railway Company and the Secretary of State in Council, on the 15th March 1859.

111. The provision of a sure and speedy means of communication between Calcutta and the Mutlah, in view of the establishment of a new and commodious port in that estuary, is the chief object of the undertaking. The inconvenience which is now felt from the crowded state of the Hooghley, and the difficulties which are encountered by vessels in navigating it, has, for some time, called for increased accommodation for the ships trading to Calcutta.

112. The line is about 20 miles in length, and presents no physical difficulties. The country is described by the Government Consulting Engineer as a dead level, the only necessary gradient being at the bridge over Tolly's Nullah, in order that sufficient headway may be left for the boats passing under it. The works are being constructed by the Railway Company's engineers, without the intervention of contractors. Considerable progress has been made, and it is calculated that the Railway will be ready for traffic by March 1861.

113. The amount of capital paid up by the Railway Company on the 31st December 1859 was 129,278*l.*, leaving 120,722*l.* still to be raised. On the above date the capital was held by 342 shareholders, of whom 40 were proprietors of shares to the value of 1,000*l.* and upwards. The expenditure of the Company has been 71,410*l.*, of which 56,813*l.* was disbursed in this country, on stores, freight, and management, and 14,597*l.* in India. The amount standing to the credit of the Railway Company on the books of the Secretary of State on the 31st December was 57,868*l.* Capital.

114. The first period at which the Government can exercise its right to purchase is in March 1884. Government right of purchase.

115. In addition to the lines undertaken by these Companies, proposals have been made for establishing railway communication in Oude and Rohilcund. Two Companies, bearing the names of the respective Provinces, have been formed for the purpose. The Oude Company has been engaged during the last cold season in making the necessary surveys, which were commenced in 1857, but were interrupted by the Mutinies. When the surveys are finished, and the views of the Government of India are sent home, it will remain for the Secretary of State in Council to determine whether any, and, if any, what, lines shall be undertaken, and by whom they shall be constructed. Railways in Oude and Rohilcund.

116. The experiment of constructing a railway by means of direct Government agency, and without the intervention of a Company, has also been Government in Kumaon.

Government line in Kumaon.

sanctioned. The line selected is to commence at the Iron Works which have recently been established by Government at Nynee Tall, in Kumaon, and is to join either the East Indian Railway or a new line of railway in Rohilcund. It is intended to apply the iron manufactured at the above works to the purposes of this line. The Superintendent, Mr. Sowerby, is of opinion that the cast-iron rails which he is able to turn out may be advantageously used, and estimates a saving of Rs. 13,900 per mile in the permanent way, for a single line at the distance of Delhi from the works. The surveys for this railway are being conducted by Mr. Hardy Wells, who commenced operations during the last cold season.

Railway Capital.

117. The following Statement shows, in a succinct form, when each Company was formed, the amount of capital estimated to be required for each undertaking, the amount authorized to be raised by each on the 31st December, the amount raised to that date, and the rate of guarantee.

Railway Company.	When established, and Date of Incorporation.		Capital estimated to be required for each Undertaking.	Amount authorized to be raised.			Amount raised in England to 31st December 1859.		Amount raised in India up to latest Advices.	Total raised at the end of the Year 1859.	Rate of Guarantee.
				By Share Capital.	By Debentures.	Total.	By Share Capital.	By Debentures.			
	1845,	1849.	£	£	£	£	£	£	£	£	
East Indian - -	1st June	1st Aug.	19,000,000*	- -	- -						
Main Line - -	- -	- -	- -	9,255,000	2,745,000	12,000,000	8,870,344	2,745,000	235,911	11,851,255	5 per cent.
Jubbulpore - -	- -	- -	- -	2,000,000	- -	2,000,000	1,757,300	- -	3,302	1,760,602	
	1852.	1853.									
Madras - -	26th July	14th Jan.	8,500,000								£3,500,000 at 5 per cent.
Main Line - -	- -	- -	- -	3,000,000	1,000,000	4,000,000	2,984,677	347,900	- -	3,332,577	£1,000,000 at 4½ "
											£500,000 at 4 "
Bellary - -	- -	- -	- -	1,000,000	- -	1,000,000	565,850	- -	- -	565,850	
	1849.	1849.									
Great Indian Peninsula	1st Aug.	1st Aug.	12,000,000	8,000,000	333,300	8,333,300	4,964,744	333,300	343,590	5,641,634	5 per cent.
	1855.	1855.									
Sind - - -	12th Jan.	2d July	1,400,000	1,000,000	- -	1,000,000	894,340	- -	20,447	914,787	"
Punjab - - -	1857.	23d Aug.	†4,000,000	1,500,000	- -	1,500,000	506,945	- -	- -	506,945	"
Indus Steam Flotilla -	"	1857.	280,000	250,000	- -	250,000	249,140	- -	- -	249,140	"
		1855.									
Bombay, Baroda, and Central India -	"	2d July	2,500,000	2,000,000	300,000	2,300,000	1,379,228	106,695	18,042	1,503,965	"
		1857.									
Eastern Bengal -	1856.	1st Aug.	‡2,500,000	1,000,000	- -	1,000,000	424,773	- -	2,685	427,458	"
Calcutta and South-Eastern - -	"	3d July	250,000	250,000	- -	250,000	123,505	- -	773	129,278	"
		1858.									
Great Southern of India	1857.	2d Aug.	2,000,000	500,000	- -	500,000	195,000	- -	1,221	196,221	"
	Total - - £		52,430,000	29,755,000	4,378,300	34,133,300	22,920,846	3,532,895	625,971	27,079,712	

* Including the Jubbulpore Line.

† Including the contemplated Line from Delhi to Lahore.

‡ Including proposed extensions.

Proportions raised and expended in England and India.

118. It will thus be observed that, out of a capital of 52,430,000*l.* estimated to be required for all the railways which have been sanctioned 34,133,300*l.* had been guaranteed by the Indian Government, and 27,079,712*l.* raised, on the 31st December. Shares can be registered in India as well as in England; but only 625,971*l.* has been subscribed in the former country, being in the proportion of 1*l.* to 43*l.* Out of every million of railway money which is raised about 976,500*l.* is therefore subscribed in this country. About 555,000*l.* of this latter sum is expended here. The balance of 426,500*l.*, which, in addition to the amount subscribed in India, is required to meet the expenditure there, is advanced by the local Government. Monthly returns of these advances are received from India, the amounts thereof being debited against the railway capital in the treasury of this office. During the last few years of financial difficulty, when supplies have been sent, not from, but to, India, this process has pressed hard upon the Government, and has obliged the Secretary of State in Council to remit a large amount of bullion to that country; but when a more natural state of things is restored, and India is again in a position to furnish the Home authorities with the funds required for their expenditure in this country, the payments of railway capital here will diminish *pro tanto* the amount to be remitted home. It must, however, be borne in mind that, when the receipts into the treasury of this office, on account of capital, cease, the payment of the guaranteed interest will continue, and the remittances from India must be sufficient to meet this demand upon the Home Government in addition to its ordinary expenditure. Difficulty may occur in effecting this, but the profits of the railways in India will, it is hoped, supply funds sufficient for the payment of interest at the guaranteed rate; and the trade of the country increasing as it does, and increasing more as it must with the stimulant of railway communication, will facilitate the means of remittance.

Capital and Interest.

119. The first of the following statements shows the amount of capital paid by, and the second the amount of interest paid to, each Railway Company in each official year, in this country and in India.

STATEMENT I.*

Capita

Amount of Capital paid into the Home Treasury.

Year ending April 30th	East Indian.	Great Indian Peninsula.	Madras.	Bombay, Baroda, & Central India.	Sind, including Punjab and Indus. Flotilla.	Eastern Bengal.	Great Southern of India.	Calcutta and South-Eastern.	Total.
	£	£	£	£	£	£	£	£	£
1848–49 -	60,000	30,000	- -	- -	- -	- -	- -	- -	90,000
1849–50 -	220,247	86,455	- -	- -	- -	- -	- -	- -	306,702
1850–51 -	364,179	92,000	- -	- -	- -	- -	- -	- -	456,179
1851–52 -	174,324	117,000	- -	- -	- -	- -	- -	- -	291,324
1852–53 -	134,865	60,584	187,500	- -	- -	- -	- -	- -	382,949
1853–54 -	359,824	82,575	188,860	- -	- -	- -	- -	- -	631,259
1854–55 -	2,553,670	481,025	384,022	- -	- -	- -	- -	- -	3,418,717
1855–56 -	1,715,426	896,100	801,356	258,383	265,614	- -	- -	- -	3,936,879
1856–57 -	1,064,710	1,378,275	657,516	199,420	42,735	- -	- -	- -	3,342,656
1857–58 -	1,142,589	132,242	509,435	289,229	728,590	161,027	- -	- -	2,963,112
1858–59 -	3,612,300	1,264,496	665,757	248,671	312,751	223,000	120,000	103,500	6,550,475
	11,402,134	4,620,752	3,394,446	995,703	1,349,690	384,027	120,000	113,105	22,370,252
Paid between 1st May and 31st Dec. 1859	1,970,510	677,292	503,981	490,220	300,735	40,746	75,000	15,400	4,083,489
	13,372,644	5,298,044	3,898,427	1,485,923	1,650,425	424,773	195,000	128,505	26,453,741

Amount of Capital paid into the Indian Treasury.

1849–50 -	- -	3,544	- -	- -	- -	- -	- -	- -	3,544
1850–51 -	31,796	57,865	- -	- -	- -	- -	- -	- -	89,661
1851–52 -	21,516	36,773	- -	- -	- -	- -	- -	- -	58,289
1852–53 -	4,673	15,842	- -	- -	- -	- -	- -	- -	20,515
1853–54 -	5,715	17,374	- -	- -	- -	- -	- -	- -	23,089
1854–55 -	84,492	29,996	- -	- -	- -	- -	- -	- -	114,488
1855–56 -	38,630	120,393	- -	4,153	- -	- -	- -	- -	163,176
1856–57 -	28,966	29,068	- -	6,125	10,650	- -	- -	- -	74,809
1857–58 -	12,927	15,121	- -	810	4,550	- -	- -	- -	33,408
1858–59 -	4,581	11,499	- -	2,866	3,725	2,247	- -	- -	24,828
	233,296	337,385	- -	13,954	18,925	2,247	- -	- -	605,807
From 1st May to date of latest Advices	5,917	6,205	- -	4,088	1,522	438	1,221	773	20,164
	239,213	343,590	- -	18,042	20,447	2,685	1,221	773	625,971

STATEMENT II.*

Guaranteed interest.

Amount of Guaranteed Interest paid in England.

Year ending April 30th	East Indian.	Great Indian Peninsula.	Madras.	Bombay Baroda, & Central India.	Sind, including Punjab and Indus Flotilla.	Eastern Bengal.	Great Southern of India.	Calcutta and South-Eastern.	Total.
	£	£	£	£	£	£	£	£	£
1849–50 -	5,601	3,063	- -	- -	- -	- -	- -	- -	8,664
1850–51 -	17,471	6,319	- -	- -	- -	- -	- -	- -	23,790
1851–52 -	35,761	11,972	- -	- -	- -	- -	- -	- -	47,733
1852–53 -	44,701	17,787	- -	- -	- -	- -	- -	- -	62,488
1853–54 -	50,930	19,301	9,703	- -	- -	- -	- -	- -	79,934
1854–55 -	87,221	23,859	18,115	- -	- -	- -	- -	- -	129,195
1855–56 -	190,600	52,286	42,510	5,141	6,502	- -	- -	- -	297,039
1856–57 -	285,070	102,181	81,139	14,412	13,235	- -	- -	- -	496,037
1857–58 -	349,295	159,243	109,267	22,403	15,644	- -	- -	- -	655,852
1858–59 -	422,302	171,985	131,001	36,090	47,358	10,270	- -	- -	819,006
	1,488,952	567,996	391,735	78,046	82,739	10,270	- -	- -	2,619,738
Paid between 1st May and 31st Dec. 1859	541,147	231,334	171,379	56,996	70,276	19,458	5,466	5,321	1,101,377
	2,030,099	799,330	563,114	135,042	153,015	29,728	5,466	5,321	3,721,115

Amount of Interest paid in India.

1851–52 -	1,423	4,338	- -	- -	- -	- -	- -	- -	5,761
1852–53 -	532	5,038	- -	- -	- -	- -	- -	- -	5,570
1853–54 -	1,140	5,701	- -	- -	- -	- -	- -	- -	6,841
1854–55 -	1,662	6,400	- -	- -	- -	- -	- -	- -	8,062
1855–56 -	5,129	8,084	- -	- -	34	- -	- -	- -	13,247
1856–57 -	12,319	14,431	- -	318	498	- -	- -	- -	27,566
1857–58 -	5,214	16,846	- -	516	563	- -	- -	- -	22,339
1858–59 -	11,665	16,870	- -	696	946	112	- -	- -	30,289
	39,084	76,908	- -	1,530	2,041	112	- -	- -	119,675

* These Statements are made out in round numbers, the fractions of the pound being omitted.

Guaranteed interest.

120. It thus appears, that on the 31st December last the eight Railway Companies had received the sum of 3,840,790*l.* for guaranteed interest. The three Companies who have commenced working portions of their lines had received 3,508,535*l.* of this amount; and on the 30*th June* 1859 had repaid 562,633*l.*

Proportion of profitable and unprofitable capital.

121. It is worthy of remark, that although the East Indian had only opened a section representing a capital of about 1,716,000*l.*, and had received the guaranteed interest upon more than thirteen millions, its profits amounted to one-fifth of the sum paid for the guarantee upon the whole. The proportion of profitable and unprofitable capital was as 1 to 8; that of realized profits and guaranteed interest as 1 to 5.

Statement showing objects, &c. of Companies.

122. The statement subjoined shows, at one general view, the length of line to be constructed by each Company, the objects of each undertaking, and the capital required and raised,—

Title of Company.	Objects of Company. and Length of Line.	Estimated amount of Capital.	Amount of Capital sanctioned.	Rate of Interest Guaranteed.
		£	£	
East Indian Railway Company - -	The construction and working of lines of Railway from Calcutta to Delhi, and from Allahabad to Jubbulpore. Total distance 1,338 miles.	19,000,000	14,000,000	5 per cent. per annum on 11,255,000*l.* Capital; 5 per cent. per annum on 2,745,000*l.* Debentures, convertible into Shares.
Madras Railway -	The construction and working of a Railway from Madras to the Western Coast at Beypore, with branches to Bangalore and the Neilgherries; also of a line from Madras, *viâ* Bellary, to join the line from Bombay. Total distance 850 miles.	8,500,000	5,000,000	4½ per cent. per annum on 500,000*l.* Capital; 4¾ per cent. on 1,000,000*l.* Capital; 5 per cent. per annum on 2,500,000*l.* Capital; and 5 per cent. per annum on 1,000,000*l.* Debentures.
Great Indian Peninsula Railway - -	The construction and working of the following Railways, all of which terminate at Bombay; viz., from Bombay, *viâ* Callian, to Jubbulpore, to meet the East Indian line from Allahabad, with branches to Mahim and Nagpore; and from Callian, *viâ* Poonah and Sholapore, to Moodgul in the Deccan, to meet the line *viâ* Bellary from Madras. Total distance 1,266 miles.	12,000,000	8,333,300	5 per cent. per annum on 8,000,000*l.* Capital, and 333,300*l.* Debentures.
Bombay, Baroda, and Central India Railway	The construction and working of a line of Railway from Bombay, *viâ* Surat and Baroda, to Ahmedabad. Total distance 310 miles.	2,500,000	2,300,000	5 per cent. per annum on 2,000,000*l.* Capital, and 5 per cent. per annum on 300,000*l.* Debentures.
Sind Railway Company — Sind Railway	The construction and working of a line of Railway in Scinde, from Kurrachee to the River Indus at Kotree. Total distance, 114 miles.	1,400,000	1,000,000	5 per cent. per annum.
Sind Railway Company — Punjab Railway	The construction and working of lines of Railway in the Punjab, from Mooltan and Lahore to Umritser, and from thence to Delhi. Total distance, 490 miles.	4,000,000	1,500,000	5 per cent. per annum.
Sind Railway Company — Indus Steam Flotilla	The navigation of the Indus by means of steam vessels between Kotree and Moultan, to be worked in connection with the Railways.	280,000	250,000	5 per cent. per annum.
Eastern Bengal Railway Company - -	The construction and working of a line of Railway from Calcutta to Kooshtee on the Ganges, with extensions to Serajgunge and Dacca. Total distance about 220 miles.	2,500,000	1,000,000	5 per cent. per annum.
Calcutta and South-Eastern Railway - - -	The construction and working of a line of Railway from Calcutta to the Port of Mutlah. Total distance 29 miles.	250,000	250,000	5 per cent. per annum.
Great Southern of India Railway - - -	The construction and working of a Railway from Negapatam to Trichinopoly, with branches to Salem and Tuticorin. Total distance, 300 miles.	2,000,000	500,000	5 per cent. per annum.

123. It thus appears, that eight Companies are employed to open 4,917 miles of communication, exclusive of the navigation of the Indus from Kotree to Moultan, a further distance of 570 miles. The largest concern is that of the East Indian, which will require a capital of 19,000,000*l.* The smallest, the Calcutta and South-Eastern, with a capital of 250,000*l.* Excluding the latter, the average length of line undertaken by each Company is 700 miles, with a capital of 7,454,000*l.* Objects of Companies, &c.

124. The following table shows the annual expenses incurred by each Company in England on account of Direction and Home Establishment, the average amount of which will be found to be about 3,650*l.* :— Home Establishment allowance.

Name of Company.	Direction and Audit.	Establishment Charges.	Allowance for the office of Consulting Engineer.	Total.
	£	£	£	£
East Indian	1,791	4,859	1,250	7,900
Great Indian Peninsula	1,321	2,679	750	4,750
Madras	900	3,100	600	4,600
Bombay, Baroda, and Central India	1,060	2,555	1,500	5,115
Sind Railway — Sind*	260	1,540	550	2,350
Sind Railway — Punjab*	260	1,540	550	2,350
Sind Railway — Indus Steam Flotilla*	130	670	300	1,100
Eastern Bengal	810	1,840	600	3,250
Great Southern of India	800	1,700	500	3,000
Calcutta and South-Eastern	542	1,158	400	2,100

* The same Board and establishment conduct the business of the three concerns.

The proportion which these expenses bear to the capital already guaranteed is 2*s.* per cent.; to the capital estimated to be required, 1*s.* 6½*d.* per cent.; and to the amount of interest guaranteed upon the latter, 1*l.* 1*s.* per cent.

125. It has sometimes been urged, that a less expensive and less complicated machinery than the employment of so many companies might have been devised for establishing a system of railways in India. The allegation may, to a certain extent, be true; and, if circumstances had favoured the plan, simplicity, and perhaps economy and a direct pecuniary advantage to the public, might have been gained had Government retained the works in their own hands. But, after deliberate consideration, it was decided to encourage private enterprise, and to employ private capital to execute them. A combination of circumstances rendered futile any attempt to raise capital without a guarantee; and it may be asked, more especially with reference to the political commotions and the financial difficulties which have been witnessed in India during the last few years, would any other system have accomplished the important object which the Government had in view? Instead of a progress which was interrupted only at times when, and in places where, actual hostilities prevailed, would not these works have been suspended, in common with all the undertakings in course of execution by Government? And would not the funds raised for their construction have been applied to meet the exigencies of the public service? The agencies above enumerated have been created at different times and under various circumstances, and (as the Statement in the margin will show) by successive ministers, and thus it has happened that undertakings may have been committed to two companies, when one would have been sufficient; but there is some advantage in allowing each association to carry out its own particular project, and in assigning to a single one only such an extent of line as prevents the creation of an inconvenient monopoly. Agencies employed in constructing Railways in India

STATEMENT.

Railway Company.	When sanctioned.	Chairman of the East India Company.	President of the Board of Control.
East Indian	March 1849.	Lt. General Sir Jas. Law Lushington, G.C.B.	Sir John Hobhouse (Lord Broughton).
Great Indian Peninsula.	March 1849.	Do.	Do.
Madras	July 1852.	Sir James Weir Hogg, Bart.	Right Hon. J. C. Herries.
Sind Railway	Jan. 1855.	Major James Oliphant.	Rt. Hon. Sir C. Wood, Bt.
Bombay, Baroda, and Central India.	April 1855.	Elliot Macnaghten, Esq.	Right Hon. R. Vernon Smith (Lord Lyvedon).
Indus Flotilla	June 1857.	Ross Donnelly Mangles, Esq., M.P.	Do.
Eastern Bengal	Aug. 1857.	Do.	Do.
Punjab Railway	Jan. 1858.	Do.	Do.
Great Southern of India.	May 1858.	Sir Fred. Currie, Bart.	The Earl of Ellenborough.
		Secretary of State for India.	
Calcutta and South-Eastern.	Nov. 1858.	Lord Stanley.	

Agencies employed in constructing Railroads.

126. It has also been said, that the multiplication of agencies involves further expense, by creating competition for materials and freight. The simultaneous construction of works may do so; but it is the extent of the demand, not the division of it, that enhances prices, and freight has generally been obtained by the Railway Companies at a lower rate than that paid by Government under a system of open competition.

Value of Indian Railway stock and shares.

127. The following table exhibits the fluctuations in the prices of Indian Railway Securities during the last five years:—

Name.	Amount of Shares.	1855.			1856.			1857.			1858.			1859.		
		Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.
								£100 Stock.						£100 Stock.		
East Indian - -	20	26	21	23½	24½	21	22½	115	97	106	113	102	107¼	109	93 Stock.	101
Madras 4½ per cent.	20	21¼	18¾	20	21⅜	18¼	20	20½	17	18¾	20½	17½	18 17/20	95	82 Stock.	88½
Madras 5 „ -	20	–	–	–	–	–	–	22¾	19	20⅜	22¾	19	20⅜	102	92 Stock.	97
Great Indian Peninsula - -	20	26⅛	25	25⅛	23⅜	20¼	21½	22⅛	19	20 1/20	22½	20⅜	21 11/20	107	90	98¼
Sind - - -	20	–	–	–	–	–	–	–	–	–	22¼	21	21⅜	22¾	17	19 7/20
Consols - - -	100	93	88	90½	95⅜	92⅜	93⅜	94¼	86½	90⅜	93¾	86½	92⅜	93¾	88¼ Stock.	93½
											Debenture.					
Indian Loan - -	100	–	–	–	–	–	–	–	–	–	99¾	97¾	98⅜	106½	97	101¾

Import of Materials (from abroad).

128. Allusion has already been made to the distance of the supplies of permanent way materials, rolling stock, &c., from the scene of operations. This is one of the great obstacles to the progress of railways in India. To appreciate the extent of the difficulty, it is only necessary to calculate the amount of materials required to be sent from this country for the construction of the works which have been commenced. Taking 75 lbs. as the average weight per yard of the rails sent out (some are 84 and some 65 lbs.), 120 tons per mile is required for a single line. Including the rails required for a double line in certain parts, for sidings, bridges, buildings, and rolling stock, stores, &c. the average weight of materials for every mile of railway, as now constructed, will more than double that quantity, or be equal to 25,000 tons for every hundred miles, and 1,210,000 tons for the lines already sanctioned. Of this amount 794,904 tons had been shipped up to the end of last year, viz.,—

	Tons.
Up to 1854 - -	77,200
In 1855 - -	111,642
„ 1856 - -	126,835
„ 1857 - -	123,103
„ 1858 - -	147,844
„ 1859 - -	208,280
Total - -	794,904

so that, upon the calculation that 250 tons is required for each mile, materials were sent out to India sufficient,

In 1855	for	446 miles.
„ 1856	„	507 „
„ 1857	„	492 „
„ 1858	„	591 „
„ 1859	„	833 „

The number of vessels, and their aggregate tonnage, which went to India during these years was, Transport of materials (from England).

In 1855	-	-	441 ships, with	301,671 tons.
„ 1856	-	-	701 „	544,857 „
„ 1857	-	-	653 „	529,238 „
„ 1858	-	-	723 „	666,840 „

As the balance of trade between this country and India is always on the side of India, the natural limit to the conveyance of dead weight from this country is regulated by the trade from India. Ships go out from hence for return cargoes. If that natural limit is exceeded, and there are too many ships in the Indian ports to secure remunerative freights for the voyage home, a rise necessarily takes place in the freights to India, and the enhanced price falls upon the Railway Companies. In other words, the cost of constructing the works is increased.

129. But when the difficulty of conveying the materials to India is got over, a more formidable one presents itself there. With the great lengths of line which are in course of construction it is impossible, without incurring great delay, to lay down the rails upon what is termed the telescopic principle, *i. e.*, by leading them from a certain point over the line, as it is finished, and laying them down by degrees. If this course had been followed with regard to the East Indian line, the opening of any section in the upper portion would have been delayed long after the earth-works were ready to receive the rails, and the line between Allahabad and Cawnpore would never have been available for troops during the military operations in Oude. The means of transport are, however, very deficient, and great risk and expense is incurred in conveying materials, whether by land or river. So much has this been felt on the East Indian Railway, that the Directors have provided a fleet of tug steamers, with barges, to take their materials up the river. The Great Indian Peninsula Railway have also great difficulties to contend against in conveying the materials for the Deccan lines across the Ghats; likewise the Sind Company, in having to send their materials for the Punjab Railway a distance of from 670 to 900 miles from the Port of Kurrachee. Transport of materials (in India).

130. The following statement shows the number of accidents that occurred during the years 1857 and 1858:— Accidents.

	East Indian.				Great Indian Peninsula.				Madras.			
	Killed.		Injured.		Killed.		Injured.		Killed.		Injured.	
Passengers.	1857.	1858.	1857.	1858.	1857.	1858.	1857.	1858.	1857.	1858.	1857.	1858.
Passengers killed and injured from causes beyond their own control	–	1	–	4	–	–	–	1	–	–	–	–
Passengers killed and injured owing to their want of caution	1	1	–	2	–	–	–	–	–	–	–	–
Total Passengers killed and injured	1	2	–	6	–	–	–	1	–	–	–	–
People connected with the Railway.												
Servants killed or injured from causes beyond their own control	–	6	1	7	3	–	1	2	2	–	–	–
Do. do., owing to their want of caution	7	9	–	1	–	7	1	11	–	2	–	–
Total railway people killed or injured	7	15	1	8	3	7	2	13	2	2	–	–
Others, neither Passengers nor connected with Lines.												
Trespassers killed or injured while crossing the line	2	7	–	1	2	1	–	–	–	–	–	–
Suicide	–	1	–	–	–	–	–	–	2	–	–	–
Total persons unconnected with railway	2	8	–	1	2	1	–	–	–	–	–	–
Grand total	10	25	1	15	5	8	2	14	2	2	–	–

The Returns for last year have not yet been received. In the year ending 30th December 1857, 1,931,892 persons of all classes travelled by railway, and out of this number, only one passenger (third class) met with a fatal accident. It is

Accidents.

explained that, in this case, the man, who was a native, got out of the wrong side of his carriage while the train was stopping at a station, and sat upon the rails, when he was run over by a goods train and killed. In 1858, out of 2,423,508 passengers of all classes, two fatal accidents occurred, one to Captain Mainwaring, of the 23rd Native Infantry, who, in some way not explained, having left the carriage and fallen on to the foot board after the train had left the ticket platform, was crushed between the carriage and the platform; the other accident befel a third class passenger, and was caused by a collision with a goods train.

131. In connexion with the subject of accidents, it may be mentioned that Colonel H. Barr, of the Bombay Army, has recently received your permission to expend 300*l.* in conducting experiments to prove the value of a danger fog signal which he has invented.

Europeans employed on Indian Railroads.

132. The following table shows the number of Europeans who are now in the service of the several Railway Companies, and the annual mortality amongst them:—

Year.	East Indian.			Great Indian Peninsula.			Madras.			Sind.			Punjab.			Indus Flotilla.			Bombay, Baroda, and Central India.			Eastern Bengal.			Great Southern of India.			Calcutta and South-Eastern.		
	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.	No. of Staff.	Deaths.	Percentage of Deaths.
1850	6	-	-	11	1	9·09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1851	12	1	8·33	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1852	29	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1853	67	-	-	31	-	-	11	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-
1854	130	-	-	44	2	4·54	25	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	-	-
1855	183	8	4·37	51	1	1·96	57	1	1·75	7	-	-	-	-	-	-	-	-	28	-	-	-	-	-	-	-	-	-	-	-
1856	247	10	4·05	80	3	3·75	84	-	-	13	-	-	7	-	-	-	-	-	36	3	8·3	-	-	-	-	-	-	-	-	-
1857	297	18	6·06	117	2	1·70	107	2	1·86	15	-	-	7	-	-	-	-	-	53	1	1·7	-	-	-	-	-	-	-	-	-
1858	494	11	2·22	153	6	3·92	118	2	1·69	40	-	-	32	-	-	2	-	-	82	2	2·4	13	-	-	-	-	-	-	-	-
1859	626	17	3·23	212	5	2·35	123	2	1·62	48	-	-	45	1	2·2	28	-	-	131	6	4·5	22	1	6·0	13	-	-	12	1	8·3

The average percentage of mortality during the last year was 2·9. The rate of mortality in the armies of the three Presidencies, exclusive of casualties from war, has been estimated at an average of six per cent. per annum.

133. In addition to the Engineering Staff, it has hitherto been found necessary to send out almost all the skilled labour required for the construction and working of the lines. The duties of engine-drivers and guards have, also, been performed by Europeans; endeavours, however, are being made, and with some success, to train persons in India for these and other duties which they have hitherto failed to perform satisfactorily.

TRAFFIC OPERATIONS.

East Indian Railway.

Traffic Operations.

East Indian.

134. The following statement shows the number of passengers conveyed by this railway in each year since it was opened.

Year ending	Miles open.	Number of Passengers.			Total.
		1st Class.	2d Class.	3d Class.	
31st May 1855 - -	121	9,302	43,896	330,546	383,744
30th June 1856 - - -	121	12,049	53,674	773,135	838,858
30th „ 1857 - -	121	13,409	52,301	947,958	1,013,668
30th „ 1858 - -	121	14,763	51,765	1,037,106	1,103,634
30th „ 1859 - -	142	15,106	57,309	1,199,517	1,271,932
(24 miles opened 1st October 1858.)					

135. The amount of receipts from passengers and goods respectively, and the working expenses during the same period, will be seen in this table :—

Year ending	Passengers.	Miscellaneous.	Goods.	Total.	Working Expenses.	Net Profits.
	£	£	£	£	£	£
30th June 1855 -	23,497	1,924	6,037	31,453	20,822	10,631
„ 1856 -	43,790	4,618	33,771	82,178	33,765	48,413
„ 1857 -	54,484	6,598	52,564	113,646	44,162	69,484
„ 1858 -	58,856	14,572	76,804	150,232	62,507	87,725
„ 1859 -	73,947	12,751	118,889	205,587	96,184	109,403

136. These returns do not include the result of the working of the line between Allahabad and Cawnpore, which, although open in 1857 for the conveyance of troops and stores, was not used by the Railway Company for public traffic until April 1859, and no accounts have yet been received of the working of the line since that period.

137. The materials for making a detailed analysis of the traffic are wanting at present, but the following results may be deduced from the foregoing statements. The proportion per cent. of each class of passengers in each year was as follows :—

Year ending	1st Class.	2d Class.	3d Class.
30th June 1855	2·6	11·5	85·8
„ 1856	1·4	6·3	92·5
„ 1857	1·3	5·1	93·5
„ 1858	1·3	4·6	93·9
„ 1859	1·1	4·1	94·8

The numbers conveyed per mile were, in

1854–55 - - - -	2,983
1855–56 - - -	6,933
1856–57 - - -	8,377
1857–58 - - -	9,120
1858–59 - - -	9,661

the classes being divided as follows :—

Year ending	1st Class.	2d Class.	3d Class.
30th June 1855	77·6	375·5	2,530·9
„ 1856	100·4	442·7	6,389·5
„ 1857	110·8	432·2	7,834·3
„ 1858	122·0	427·8	8,562·8
„ 1859	106·3	403·5	9,151·5

The receipts from each class, and the average receipts per mile, were—

Year ending	1st Class.	2d Class.	3d Class.	Total.	Average Receipts per Mile.
	£	£	£	£	£
30th June 1855	1,890	2,949	18,658	23,497	194·8
„ 1856	2,634	3,801	28,355	43,790	353·6
„ 1857	3,735	4,811	45,938	54,484	450·2
„ 1858	5,132	5,937	47,787	58,856	486·4
„ 1859	5,814	5,169	62,964	73,947	520·8

138. The following table exhibits the proportion of working expenses to gross receipts, and the proportion per cent. of receipts from passengers and goods. It will be seen, while, in the first instance, the greater receipts were from passengers, the proportion has gradually become in favour of goods :—

Year ending	Percentage of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
30th June 1855	67·67	74·4	25·2
„ 1856	41·16	53·2	46·7
„ 1857	38·85	48·0	52·0
„ 1858	40·03	38·9	60·8
„ 1859	45·04	35·9	64·0

Traffic Operations.

East Indian.

139. The proportion in which the expenses of maintaining and working the line are divided may be gathered from the following table, which was prepared by Captain Hodgson, in charge of the office of Consulting Engineer to the Government of India, Railway Department. The corresponding charges on the railways in Great Britain are also given :—

Country.		Percentage of whole Expenses.				
		Maintenance of Way.	Locomotive.	Traffic.	General.	Poor Rates, &c.
England	1855	14·4	37·9	26·6	13·4	7·7
	1856	15·5	38·0	26·2	11·8	8·5
Scotland	1855	14·5	40·2	25·0	15·8	4·5
	1856	13·9	41·7	23·1	15·8	5·9
Ireland	1855	12·9	43·0	25·7	14·0	4·4
	1856	14·4	47·0	24·7	13·3	·6
East Indian	1855	13·4	48·0	19·5	19·1	—
	1856	28·9	42·1	12·9	16·1	—
	1857	27·0	45·7	14·0	13·3	—
	1858	21·7	38·9	26·7	12·7	—

140. The following statement, also prepared by Captain Hodgson, contains some interesting particulars :—

Half Years ending June and December	Length of Railway open.	Receipts per Mile for			Expenditure per Mile of Railway open.							Expenditure per Train per Mile for						Receipts per Train per Mile.
		Passengers.	Goods.	Total.	Maintenance of Way.	Locomotive Carriages.		Traffic Charges.				Maintenance of Way.	Locomotive and Rolling Stock.	Traffic.	Miscellaneous.	Rates and Government Duty.	Total.	On total Revenue.
						Engine.	Carriages and Waggons.	Coaching.	Merchandize.	Police, Pointsmen, Printing, Miscellaneous.	Total.							
		£	£	£	£	£	£	£	£	£	£	£	£	£	£		£	£
1856	121	240	181	421	51	73	4	9	7	27	171	13·20	20·19	4·33	7·09	—	44·90	111·37
1856	121	248	205	445	51	76	5	11	8	29	180	13·85	21·67	5·32	7·94	—	48·78	119·95
1857	121	275	297	572	59	95		10	11	32	207	10·94	17·63	3·92	6·05	—	38·54	100·61
1857	121	323	295	618	65	114		24	12	29	244	10·4	18·4	5·85	4·60	—	40·25	133·625
1858	121	325	384	709	70	130		43	40	4	324	8·40	15·84	10·08	5·04	—	39·36	91·87
1858	131	323	383	709	78	135		47	52	46	359	10·1	17·6	12·8	7·6	—	46·6	93·1

The greater portion of the revenue from the goods traffic is derived from coal, which is conveyed from Raneegunge to Calcutta at a charge of 9*s.* 6*d.* per ton. The receipts from this source were,—

	£
In the year ending 30th June 1855	1,949
,, ,, 1856	17,678
,, ,, 1857	29,869
,, ,, 1858	43,224
,, ,, 1859	71,736

The goods traffic generally is at present so imperfectly developed, that an attempt to analyze it would not answer any useful purpose.

141. The net receipts of the line upon which the above traffic has been carried on for the last *half year* for which accounts have been made up amounted to 66,425*l.* This would produce a dividend at the rate of 7*l.* 14*s.* 10*d.* per annum; the cost being estimated at 1,716,000*l.*

GREAT INDIAN PENINSULA RAILWAY.

142. The number of passengers conveyed on this railway in each year since the commencement of the traffic will be seen by the following table:—

Year ending 30th June	Number of Miles open	Number of Passengers.			Total.
		1st Class.	2d Class.	3d Class.	
1854	35	11,780	62,217	461,198	535,195
1855	35	6,168	34,812	446,784	487,764
1856	88	4,869	32,479	469,666	507,014
1857	88	8,013	32,137	606,962	647,112
1858	130	11,569	33,852	774,472	819,893
1859	194	12,938	107,919	1,040,644	1,161,501

The receipts from passengers and goods, and the working expenses and profits during the same periods, are exhibited in the following table:—

Year ending 30th June	Receipts.			Total.	Working Expenses.	Net Profits.
	Passengers.	Miscellaneous.	Goods.			
	£	£	£	£	£	£
1854	13,647	604	—	14,251	7,129	7,122
1855	12,512	362	1,692	14,566	10,795	3,771
1856	14,714	784	7,945	23,443	12,030	11,413
1857	25,486	2,454	30,225	58,165	24,342	33,823
1858	35,224	4,289	35,520	75,033	32,472	42,561
1859	60,785	1,065	86,646	148,496	65,491	83,005

143. From the first of the foregoing statements it may be gathered that the proportion per cent. of each class of travellers in each year was as follows:—

Year ending 30th June	1st Class.	2d Class.	3d Class.
1854	2·201	11·625	86·174
1855	1·264	7·137	91·598
1856	·960	6·405	92·633
1857	1·238	4·966	93·793
1858	1·411	4·218	94·460
1859	1·113	9·291	89·594

The numbers conveyed per mile were,—

Year ending 30th June	1st Class.	2d Class.	3d Class.
1854	336	1,777	13,177
1855	176	994	12,765
1856	55	364	5,337
1857	91	365	6,897
1858	89	260	5,957
1859	67	556	5,364

It will be observed that the opening, in 1855–56 and 1857–58, of additional lengths of line was attended by a falling off in the mileage number of passengers. This was naturally to be expected, and it will be interesting to watch the gradual development of the traffic in the districts through which the railway is taken.

Traffic Operations.

Great Indian Peninsula Railway.

144. The following table shows that while the average distance travelled by each class increased every year, that distance was less in proportion to the length of line opened.

Year ending 30th June	Average Distance travelled by each Class.		
	1st Class.	2d Class.	3d Class.
	Miles.	Miles.	Miles.
1856	31	17	17
1857	38	24	23
1858	30	26	20
1859	42	27	31

The receipts from each class, and the average receipts per mile, were as follows:—

Year ending 30th June	Total Receipts from each Class.			Grand Total.	Average Receipts per Mile of Line open.
	1st Class.	2d Class.	3d Class.		
	£	£	£	£	£
1854	1,671	3,341	8,635	13,647	389·9
1855	1,031	2,123	9,358	12,512	357·4
1856	1,250	2,257	11,207	14,714	167·2
1857	2,376	3,059	20,051	25,486	289·4
1858	3,059	4,443	27,722	35,224	270·1
1859	4,827	8,759	47,199	60,785	313·3

145. The subjoined table exhibits the proportion of working expenses to gross receipts, and the proportion per cent. of receipts from passengers and goods.

Year ending 30th June	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
1854	50·0	95·7	4·2
1855	74·1	85·8	14·1
1856	51·3	63·0	37·2
1857	40·2	43·8	55·4
1858	43·2	46·9	53·0
1859	44·1	41·0	58·3

146. The following statements are reproduced from the last interest Report of the Great Indian Peninsula Railway Company, for the year ending 30th June 1859. It shows, "in comparison with the previous year, the average number of passengers per train, the average earnings per passenger train, and the average mileage travelled by each passenger:—

	Average Passengers per Train. Number.				Average Earnings per Train.						Average Mileage travelled per Passenger.		
	1st Class.	2d Class.	3d Class.	Total.	1st Class.	2d Class.	3d Class.	Parcels and Luggage.	Carriages, Horses, and Dogs.	Total.	1st Class.	2d Class.	3d Class.
					£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.			
Year ending 30th June 1858	4	12	264	280	1 0 10	1 10 2	9 9 2	0 13 5	0 15 10	13 9 5	30	26	23
Year ending 30th June 1859	3	24	229	256	1 1 3	1 18 6	10 7 11	1 9 0	1 4 2	16 0 10	42	27	31
Increase	—	12	—	—	0 0 5	0 8 4	0 18 9	0 15 7	0 8 4	2 11 5	12	1	8
Decrease	1	—	35	24	—	—	—	—	—	—	—	—	—

"Notwithstanding the extension from time to time of the opened line, the number of second class passengers travelling did not increase, and was in point of fact smaller in the year ended the 30th June 1858, when the mean number of miles open was 90½, than it had been in the second year of the Company's working of the railway ended 30th June 1854, when the mean mileage was 34½, the number carried being 33,852½ in the year 1857–58, and 34,812 in 1853–54. It was determined, therefore, to reduce, experimentally, the second class fare from 12 pies to 6 pies per mile. This reduced fare was accordingly brought into operation on the 1st October 1858, and the result is shown by the following comparative statement of the passenger traffic in the last two years:—

	Mean Mileage.	1st Class.			2d Class.			3d Class.		
		No.	Amount.	Per Mile.	No.	Amount.	Per Mile.	No.	Amount.	Per Mile.
			£ s. d.	£ s. d.		£ s. d.	£ s. d.		£ s. d.	£ s. d.
Year ended 30th June 1858	90·63	11,569	3,068 1 9	33 15 0	33,852½	4,433 10 6	48 18 4	774,472½	27,722 13 8	305 17 8
Year ended 30th June 1859	165·41	12,938½	4,827 14 6	29 3 8	107,919	8,759 8 0	52 10 1	1,040,644	47,198 1 1	285 6 10
Increase - -	74·78	13,369½	1,769 12 9	—	74,066½	4,315 17 6	4 0 9	266,171½	19,475 7 5	—
Decrease - -	—	—	—	4 11 4	—	—	—	—	—	20 10 10

"The Merchandise Traffic of the year was composed as follows:—

	Tons.	Average Mileage each Ton.	Total Earnings.	Average Number of Vehicles which comprised each Goods Train.	Average Load of Goods carried by each Train.	Average Load carried by each Vehicle.
			£ s. d.			
First Class - -	33,908	48	8,633 11 10			
Second Class -	54,312	57	21,889 4 5			
Third Class - -	8,114	70	5,092 12 7			
Fourth Class -	4,877	71	4,204 4 5			
Fifth Class - -	4,681	53	5,279 4 9			
Treasure - -	275	41	488 13 6			
Railway Materials	89,316	50	28,942 19 8			
	195,483	53	£74,530 11 2	24·34	Tons 50·021	Tons 2055"

147. The cost of the 195 miles, to which the above statements apply, including permanent way and rolling stock, is calculated at 1,699,033*l.*, or about 8,713*l.* per mile. The net receipts for the half year ending 30th June last were 48,515*l.*, which would produce a dividend at the rate of 5*l.* 14*s.* per cent. per annum.

MADRAS RAILWAY.

148. The following statement shows the number of passengers conveyed by this line in each year since it was opened:—

Year ending 30th June	Number of Miles open.	Number of Passengers.			Total.
		1st Class.	2d Class.	3d Class.	
1857	65	1,579	6,650	155,827	164,056
1858	81	1,068	5,301	200,913	207,282
1859	96	929	11,598	276,422	288,949

Traffic Operations.

Madras Railway.

Subjoined are the receipts from the passengers and goods respectively, in the same years:—

Year ending 30th June	Receipts.			Total.
	Passengers.	Miscellaneous.	Goods.	
	£	£	£	£
1857	12,753	2,502	10,811	26,066
1858	17,051	4,603	14,827	36,481
1859	22,299	5,482	20,161	47,942

The proportion of each class of passengers in each year, was—

Year ending 30th June	1st Class.	2d Class.	3d Class.
1857	·97	4·05	94·98
1858	·52	2·55	96·93
1859	·32	4·0	95·68

The numbers conveyed per mile, were—

Year ending 30th June	1st Class.	2d Class.	3d Class.
1857	24·3	102·3	2397·3
1858	13·1	65·4	2480·4
1159	9·6	120·8	2879·3

The average distance travelled by each class, was—

Year ending 30th June	1st Class.	2d Class.	3d Class.
	Miles.	Miles.	Miles.
1857	48	39	36
1858	68	46	38
1859	63	42	37

The total receipts from each class, and the average receipts per mile, will be seen by the following table:—

Year ending 30th June	Total Receipts from each Class.			Grand Total.	Average Receipts per mile of line open.
	1st Class.	2d Class.	3d Class.		
	£	£	£	£	£
1857	653	1,117	10,983	12,753	196
1858	574	1,160	15,317	17,051	215
1859	568	1,478	20,253	22,299	232

149. The percentage of working expenses to gross receipts, and the proportion per cent. of receipts from passengers and goods, was as follows:—

Year ending 30th June	Percentage of Working Expenses on Gross Receipts.	Proportion per cent. of Receipts between	
		Passengers	and Goods.
1857	50·2	48·9	51·1
1858	52·1	46·7	53·3
1859	52·9	46·5	53·5

Traffic Operations.

Madras Railway.

150. The cost of the line at present open for traffic is calculated at 672,000*l.*, or 7,000*l.* per mile. As the accounts were originally made up, it would appear that the net receipts for the half-year ending 30th June last were about 7,015*l.*, being equivalent to a dividend at the rate only of 2*l.* 1*s.* 9*d.* per cent. per annum. But this does not present a correct view of the case, for during that period a considerable sum was defrayed by revenue which should have been, and will be, borne by capital. It may also be observed that the traffic has since greatly improved, and that the net receipts of the last half-year will probably double those of that above mentioned.

Traffic of the three Railways combined.

General Traffic Operations.

151. The following statement presents a general view of the aggregate traffic on all the railways now open in India :—

Year ending 30th June	No. of Miles.	Railway.	No. of Passengers. 1st Class.	2d Class.	3d Class.	Total.	Tonnage of Goods.	Receipts from Passengers.	Receipts from Goods.	Total Receipts.	Working Expenses.	Net Profits.*
								£	£	£	£	£
1853-54	35	Great Indian Peninsula	11,780	62,217	461,198	535,195	23	13,647	604	14,251	7,129	7,122
1854-55	158	East Indian 121 Great Indian Peninsula 35	15,476	78,708	777,330	851,514	33,603	36,009	10,015	46,024	31,876	14,148
1855-56	209	East Indian 121 Great Indian Peninsula 88 East Indian 121	16,918	86,153	1,242,801	1,345,872	133,107	58,504	47,118	105,622	45,795	59,827
1856-57	274	Great Indian Peninsula 88 Madras 65	23,001	81,088	1,710,747	1,814,836	250,792	28,723	105,154	197,877	81,596	116,281
1857-58	332	East Indian 121 Great Indian Peninsula 130 Madras 81 East Indian 142	27,400	90,918	2,012,491	2,130,809	329,063	111,131	150,615	261,746	111,444	150,302
1858-59	†432	Great Indian Peninsula 194 Madras 96	28,973	176,826	2,516,583	2,722,382	195,431	157,451	224,994	402,025	187,065	214,960

* It is possible that these amounts may be slightly altered hereafter, as there are certain charges about which there is some doubt as to whether they should be applied to capital or revenue.
† A further section of 35 miles was opened on the Great Indian Peninsula line just before the end of the year.

152. The number of passengers per mile in each year were,—

Year ending 30th June	On the East Indian.	On the Great Indian Peninsula.	On the Madras.	Average on the Three Lines.
1854	—	15,291	—	15,291
1855	2,983	13,936	—	5,440
1856	6,933	5,761	—	6,440
1857	8,377	7,353	2,523	6,659
1858	9,120	6,306	2,559	6,418
1859	9,661	5,987	3,009	6,533

The proportion per cent. contributed by each company was,—

Year ending 30th June	East Indian.	Great Indian Peninsula.	Madras.
1857	55·5	35·6	8·9
1858	51·7	38·5	9·8
1859	48·6	41·2	10·2

The proportion per cent. of passengers in each class was,—

Year ending 30th June	1st Class.	2d Class.	3d Class.
1857	1·3	4·9	93·8
1858	1·3	4·3	94·4
1859	1·2	6·2	92·6

153. The following table shows the total receipts, working expenses, and profits :—

Year ending 30th June	Receipts from Passengers. East Indian.	Great Indian Peninsula.	Madras.	Total.	Receipts from Goods. East Indian.	Great Indian Peninsula.	Madras.	Total.	Total Receipts.	Working Expenses. East Indian.	Great Indian Peninsula.	Madras.	Total Working Expenses.	Total Profits.*
1853-54	- -	13,647	- -	13,647	- -	604	- -	604	14,251	- -	7,129	- -	7,129	7,122
1854-55	23,497	12,512	- -	36,009	7,961	2,054	- -	10,015	46,024	21,081	10,795	- -	31,176	14,148
1855-56	43,790	14,714	- -	58,504	38,389	8,729	- -	47,118	105,622	33,705	12,090	- -	45,795	59,827
1856-57	54,434	25,486	12,753	92,723	59,162	33,679	13,313	105,154	197,877	44,162	24,342	13,092	81,596	116,281
1857-58	58,856	35,224	17,051	111,131	91,376	39,809	19,430	150,615	261,746	62,507	32,472	16,465	111,444	150,302
1858-59	73,947	60,785	23,269	157,031	151,640	87,711	25,643	244,994	402,025	96,184	65,491	25,390	187,065	214,960

* Subject to future adjustment. See note to paragraph 151.

General Traffic Operations.

The proportion per cent. of the receipts was—

Year ending 30th June	East Indian.	Great Indian Peninsula.	Madras.
1857	58·7	27·5	13·8
1858	52·9	31·8	15·3
1859	47	38·7	14·3

Amount advanced for guaranteed interest covered by profits.

154. It is calculated that the cost of the lines which realized these profits was,—

		£
East Indian	145 miles	1,716,000*
Great Indian Peninsula	195 „	1,699,000
Madras	96 „	672,000
		£4,087,000

* This does not include the cost of the 24 miles to Cynthea or the cost of making the road to the Burdwan Junction suitable for a double line, as neither of these works (which have since been finished) were in position to produce any return to June last.

The guaranteed interest upon these sums amounts to, on	£
East Indian 5 per cent.	85,800
Great Indian Peninsula 5 per cent.	84,950
Madras { 500,000*l.* at 4½ per cent.	22,500
Madras { 321,600*l.* at 5 „	8,600
Total	£ 201,850

The net profits of the three railways, notwithstanding the small earnings of the Madras line, amounted, for the year ending 30th June last, to more than this sum, so that the Government was practically relieved from any payment on account of the guarantee upon the capital expended on these lines.

155. From a former part of this Report it will be gathered that up to the end of the year the whole extent of railway open was 636 miles; but the length of line to which these traffic operations apply is only 436 miles, no returns having been received of the results of the remaining 200 miles.

Government liability for guarantee.

156. It appears from the following statement, that on the 1st January 1860, the annual amount of interest payable by the Government of India to the Railway Companies, on account of the guarantee, was 1,352,039*l.* per annum, and that by the 1st January 1860 this amount will be increased to about 1,663,705*l.* In the mean time, however, the net earnings of the railways which are open for traffic will also increase, and assist to diminish the demand upon Government.

Railway Company	Amount of Capital paid in on 31st December 1859, and Interest due thereon.		Amount estimated to be paid in during 1860, and Interest due thereon.		Total Interest.
	Capital.	Interest.	Capital.	Interest.	
	£	£	£	£	£
East Indian	13,611,857	680,592	3,067,250	153,362	833,954
Madras	3,898,427	189,921	1,152,000	57,600	247,521
Great Indian Peninsula	5,641,634	282,081	900,000	45,000	327,081
Bombay, Baroda, and Central India	1,503,965	75,198	253,000	12,650	87,848
Sind	914,787	45,739	150,000	7,500	53,239
Punjab	506,945	25,348	100,000	5,000	30,348
Indus Flotilla	249,140	12,457	152,235	2,611	15,068
Eastern Bengal	427,458	21,372	360,000	18,000	39,372
Calcutta and South-Eastern	129,278	6,463	60,000	3,000	9,463
Great Southern of India	196,221	9,811	200,000	10,000	19,811
Total	27,079,712	1,348,982	6,394,485	314,723	1,663,705

157. It should be borne in mind, that of the 27,079,712*l.*, upon which the sum of 1,348,982*l.* was due for interest, only 4,087,000*l.* was in a position to yield any return, that is to say, had been expended upon lines open for traffic, and it has been explained above that the earnings of the lines representing that capital amounted, during the year ending 30th June last, to more than the sum paid for the interest guaranteed upon it. Since that time a further improvement has taken place in the gross receipts, but the want of full particulars does not enable me to furnish the actual profits.

Financial prospects.

158. This result may, I trust, be regarded as an earnest of what the financial position of these undertakings will be when they are completed throughout. It is thought by some that their present success is due to the shortness of the sections now open, and to their vicinity to the Presidency towns. But these opinions do

not apply so much to passenger as to goods traffic, from which latter source, I venture to think, the greater profits will ultimately be derived. At present, the conveyance of merchandize is very limited, and it cannot be expected that the traffic will be properly developed until a greater extent of line is open, but it will have been observed, by the tables given above, that the receipts from goods are already greater than from passengers; whereas the proportion in 1856 was 55·40 of the latter to 45·60 of the former; last year it was 39 to 61 per cent. Financial prospects.

159. There are two periods in the history of these undertakings, for the arrival of which the Government as well as the shareholders will look with interest. One, when, after the completion of each undertaking, the half-yearly profits shall exceed the rate of guaranteed interest, and when half such excess will accordingly be added to the 5 per cent. paid to the shareholders. The other, when the whole amount advanced by the Government, for the payment of the guaranteed interest, shall have been paid off, and the shareholders will receive the whole of the net receipts.

160. It would be premature now to attempt to calculate when these events are likely to occur. In the mean time, however, there is sufficient ground for looking forward to the realization of Lord Dalhousie's prediction, that "the Government will never be called upon, after a line shall have been in full operation, to pay the interest guaranteed upon the capital;" in other words, that a line, when completed and in full work, will realize a steady profit of 5 per cent. As this state of things must, however, depend upon various circumstances, it may be worth while to examine whether the hope may be justified by the present aspect of Indian railway projects.

161. The success of all railways is of course contingent upon their original cost, upon the manner in which they are managed when completed, upon the trade of the country and the extent and habits of the population of the districts through which they pass, upon the deterioration of the plant and road, and upon the amount of working expenses. And, when applying these conditions to India, it may be possible to arrive at something like a correct estimate of the commercial value of railways in that country.

162. Before considering the question of the cost of construction, it should be borne in mind that no expense attending the purchase of land falls upon the Indian railway shareholder, that parliamentary contests are avoided, and that the expenses on account of law and parliamentary proceedings are, consequently, very trifling, when compared with that paid by English companies. The table subjoined exhibits the expenses incurred by some of the English, as well as the Indian railway companies in being formed and incorporated, and the proportion which such expenses bear to the capital. Law and Parliamentary expenses.

Railway Company.	Total Capital of the Company.	Law and Parliamentary Expenses.	Proportion which the Total Parliamentary Expenses bear to the Total Capital.
	£	£ s. d.	
Eastern Counties	11,611,085	268,201 2 3	2·3 per cent.
Great Northern	11,444,404	334,219 0 0	2·92 „
Great Western	27,430,710	760,270 6 1	2·77 „
London, Brighton, and South Coast	7,799,257	43,690 9 5	·56 „
London and North-Western	34,041,013	869,771 0 9	2·55 „
London and South-Western	9,506,225	313,702 0 0	3·6 „
Midland	20,712,981	597,890 10 10	—
South-Eastern	11,044,592	515,707 11 3	4·669 „
East Indian	17,000,000	4,093 0 0	·02 „
Madras	8,500,000	1,183 0 0	·01 „
Great Indian Peninsula	12,000,000	4,124 0 0	·03 „
Bombay, Baroda, and Central India	2,500,000	3,033 0 0	·12 „
Scinde	3,000,000	2,383 0 0	·07 „
Eastern Bengal	1,250,000	926 0 0	·07 „
Great Southern of India	500,000	466 0 0	·09 „
Calcutta and South-Eastern	250,000	1,174 0 0	·46 „

* This observation does not, however, apply with great force to the East Indian, partly in consequence of the addition caused to their expenses from losses, incurred by the Mutiny, &c.

163. The amount affixed to the Indian lines in the following statement exhibits, therefore, with trifling exceptions, what is actually required* for the construction of the Comparison of cost with other lines

Comparison of cost with other lines.

works and the supply of plant. It will be seen that the average cost of Indian railways bears a favourable comparison to that of other countries.

Name of State.	Year.	Length of Line open.	Total Capital expended.		Receipts from Traffic.		Working Expenditure.		Net Receipts.		Proportion per Cent of Working Expenses to Receipts.	Proportion per Cent. which Net Receipts bear to the Capital expended.
			—	Per Mile of Line open.	—	Per Mile of Line open.	—	Per Mile of Line open.	—	Per Mile of Line open.		
		Miles.	£	£	£	£	£	£	£	£		
Austria	1856	1,586	25,870,786	16,378	3,461,322	2,190	1,824,120	1,150	1,637,202	1,040	52·70	6·32
Belgium	1856	445	7,294,783	16,391	960,327	2,158	580,600	1,266	399,727	898	58·16	5·48
France	1854	2,913	74,772,994	25,668	7,882,656	2,706	3,469,237	1,191	4,413,439	1,515	44·01	6·58
Germany, exclusive of Austria and Prussia	1855	2,226	29,185,250	13,111	4,042,370	1,816	1,442,928	897	2,599,442	919	49·38	5·70
Great Britain: England and Wales	1857	6,706	263,145,238	39,275	20,195,460	5,161	9,707,408	1,564	10,487,962	1,697	48·00	4·06
Great Britain: Scotland	1857	1,248	36,084,288	28,225	2,466,890	2,107	1,093,970	941	1,392,920	1,166	44·00	4·13
Great Britain: Ireland	1857	1,070	16,760,300	15,664	1,139,296	1,091	438,771	465	700,525	626	38·00	3·99
Holland	1857	163	3,248,845	19,931	278,619	1,709	169,837	1,042	108,782	667	60·96	3·35
Prussia	1856	2,963	35,295,043	14,101	4,537,602	1,877	2,341,905	968	2,196,697	909	51·59	6·22
Sardinia	1855	254	—	—	338,724	1,427	174,950	744	163,674	703	51·38	—
Spain	1855	130	—	—	137,028	924	67,879	522	69,149	402	56·48	—
Switzerland	1856	203	4,037,427	19,888	129,271	636	69,273	341	59,998	295	54·28	1·48
Tuscany	1856	132	2,053,493	15,556	127,536	966	58,901	446	68,635	520	46·18	3·34
United States of America	1855	17,481	144,646,953	8,275	18,780,848	1,234	10,979,149	666	8,701,700	568	54·00	6·70
East Indian	1858-59	142	1,716,000	12,084	205,587	1,447	96,184	677	109,403	770	45·04	7. 4. 10.
Great Indian Peninsula	1858-59	194	1,699,033	8,758	148,496	764	65,491	337	83,005	427	44·1	5. 14. 0.
Madras	1858-59	96	672,000	7,000	47,942	499	25,390	264	22,552	234	52·9	2. 1. 8.

164. By taking the instances of two trunk railways in England and India respectively, some idea may be formed of the comparative cost to the shareholders of such lines in each country. The works and stock included in the present undertaking of the London and North-Western Company, and the purchase of land, involved an expenditure nearly three times greater than that which it is expected will be required for the line from Calcutta to Delhi and its branches. The former line embraces a length of 686½ miles, and the capital amounts to 34,559,446*l.*; the average cost per mile being 50,000*l.* The latter is 1,120 miles in length, and the cost, exclusive of the purchase of land, which is provided by Government, is likely to be 17,000,000*l.* for a single, or 20,000,000*l.* for a double line, or 14,480*l.* and 17,480*l.* per mile respectively.

Comparison of working expenses.

165. It would appear also, by the above statement, that the expenses of working lines at present open in India, and of maintaining them, is not greater than similar charges in other countries. It is, however, almost premature to express any decided opinion upon this point. On the one hand, the railroads have not been opened for a sufficient length of time to enable a judgment to be formed of the deterioration that will take place in the permanent way materials and rolling stock; and, on the other hand, the charges for management are probably larger in proportion to the extent of line open than they will be when the whole of the work is completed. At the same time, the returns which have been made indicate a gradual reduction in the expenditure on this head. The full effects of the climate and the depredations of the white ant upon the wooden materials (such as sleepers, fencing, &c., which form part of the work) have yet to be ascertained, but sufficient has already been observed to lead to the belief that the process of decay will not be slow, and that it will, in all probability, be found economical to substitute iron for wood as much as possible. Taking, however, everything into consideration, there is no reason for supposing that the cost of working and maintaining railways in India will bear an unfavourable comparison with that incurred on railways in other countries.

166. With regard to traffic, the statements above furnished, exhibiting the results of the past, afford, perhaps, a sufficient encouragement for the future; and it may be observed, that these results would have been still more satisfactory if the Madras line were a fair criterion of the traffic which it ought to command; but the absence of roads from the existing highways to the stations has hitherto offered a great obstacle to its development.

Prospects of success.

167. The various lines must necessarily differ in their respective results, according to the circumstances of the districts through which they pass, but assuming that the requisite facilities will, in all cases, be afforded for obtaining a

ready access to them, and considering that the competition will be avoided, which in this country has been the means not only of exhausting funds at the outset, but of seriously diminishing the amount of profits that had been calculated upon, ample grounds exist for the expectation, that when once the lines are completed and brought into working order, the traffic will be sufficient, not only to cover the guaranteed interest, but to produce a highly remunerative return. Prospects of success.

168. Having alluded to the question of competition, I should observe, that any injurious effects which the existence of an apparent monopoly might seem calculated to produce upon the interests of the community at large is prevented by the power which is reserved to the Government to regulate the proceedings of the Railway Company, and to fix, in the first instance, the rates and fares which they may impose. In considering this question, the Government is influenced by the two-fold desire to produce as remunerative a traffic as possible, and to confer as much convenience and benefit upon the population of the country, and as many facilities for its trade, as are compatible with the extent of profits contemplated in the clause of the contracts relating to the question of fares. The problem is a difficult one, and can only be solved by careful experiments. These have been, and are now being, tried, and modifications in the tariffs have, from time to time, been made, as circumstances seemed to require. Fares. See Appendix.

169. It is worthy of note how greatly the traffic of the third class preponderates. The proportion of first and second class put together is to the third class as 1 to 16½. This shows, conclusively, how strong has become the desire of the population at large to move about, when the means of doing so has been provided. If railways have produced this result with a people usually regarded as inactive and stationary, it may reasonably be expected that an impulse will be given to the already expanding trade of India,* the advantages of which will be felt equally in this country as in India. Effects upon people and trade of India.

* In 1848, the number of European vessels which entered Indian ports was 1,927; in 1858, 4,261.
In 1848, the value of exports was 14,738,435*l.*, and of imports 10,571,008*l.*, total, 25,309,443*l.*
In 1858, the exports were 28,278,474*l.*; the imports were 31,093,065*l.*; total, 59,371,539*l.*

170. It may be interesting, as an example, to examine the effect which they will probably have upon the great staple of our manufacturing districts. It appears by the Statement* appended, that the average amount of cotton supplied per annum to the United Kingdom, by India, during the ten years ending 1858, was 146 million pounds, or about 18 per cent. of the total imported into the former. America supplies 75½ per cent. of the remainder. Of the Indian portion, Bombay sends 135 million pounds, Madras 9½ millions, and Bengal 1½ millions. By far the greater quantity, therefore, comes from Bombay. The cotton fields of Berar and Surat will soon be penetrated by the Great Indian Peninsula and the Bombay and Baroda Railways. Hitherto the cotton from the former district has been carried to the port of Bombay, a distance of 450 or 500 miles, on the backs of bullocks or in country carts; from the latter it has been conveyed in small Carriage of Cotton, &c.

* Statement.

Year.	East Indies.		United States.		Other Parts.		Total.	
	Amount.	Value.	Amount.	Value.	Amount.	Value.	Amount.	Value.
	lbs.	£	lbs.	£	lbs.	£	lbs.	£
1849	67,203,519	1,775,309	634,504,050	13,549,722	50,126,447	1,070,408	751,834,016	16,395,439
1850	110,690,357	2,201,178	493,153,112	14,897,334	51,551,007	1,557,270	655,394,476	18,655,782
1851	141,446,798	3,474,789	596,638,962	14,294,275	38,113,811	517,310	776,199,571	18,286,374
1852	81,104,223	3,619,989	765,630,544	17,146,930	79,229,472	1,856,941	925,964,239	22,623,860
1853	181,360,994	3,629,494	658,451,796	15,015,797	54,978,793	1,289,399	894,791,583	19,934,690
1854	138,183,429	2,802,150	722,151,346	16,173,182	45,345,794	1,015,565	905,680,569	19,990,897
1855	119,513,537	2,428,764	681,629,424	16,330,705	64,943,312	2,389,267	866,086,273	21,148,736
1856	170,771,510	3,314,951	780,040,016	32,001,000	63,349,888	1,583,747	1,014,161,414	36,899,698
1857	253,410,036	4,437,949	654,758,048	19,779,149	64,222,704	1,940,161	972,390,788	26,157,259
1858	197,221,247	4,301,769	833,237,776	21,720,567	68,381,824	1,780,777	1,098,840,847	27,803,113
Total -	1,460,905,650	31,986,342	6,820,195,074	180,908,861	580,243,052	15,000,845	8,861,343,776	227,896,048
Average per annum	146,090,565	3,198,634	682,019,507	18,090,886	58,024,305	1,500,084	886,134,377	22,789,604

Carriage of Cotton, &c.

coasting vessels. The system of packing and cleaning it has been very imperfect, and upon reaching Bombay it is found, frequently after a journey of six or eight weeks, to have deteriorated in quality and to have diminished in quantity. It has been estimated that the expense of conveying it from Berar amounts to 1½*d.* per lb., but it is often much higher. This addition to its cost, and its present inferiority to American cotton, prevents the grower from realizing an adequate profit, except when America fails to send the necessary supply to England, It is the opinion of competent judges that the growth of cotton in Berar may be increased to an almost unlimited extent, and that, with care and attention, its quality may be improved. When railways afford a safe and expeditious means of conveyance, and enable it (as the present rates would do) to be delivered at Bombay at more than a penny a pound cheaper than can now be accomplished under the most favourable circumstances, there will be no excuse for inattention to its culture; for the cost of bringing it to the English market would then be so reduced as to enable it to compete, upon more equal terms, with American cotton. In a few words, the result of railway communication will be, the greater supply to this country of a better article at a cheaper rate.

General advantages of railways in India.

171. The same observations are equally applicable to other products, such as sugar, indigo, rice, &c., which are exported from India, as well as to many resources of the country, including wool, flax, fibres, &c., which have hitherto remained comparatively unknown or dormant, principally from the deficiency in the means of conveying them to a seaport. The most important of these resources, the development of which will add more to the material wealth of the country than almost any other product, are coal and iron. For it is possible that, by the use of these essential aids to the working of machinery, India may again become a manufacturing as well as a producing country. In addition to the commercial benefits which are thus likely to arise, it is hardly necessary to allude to the political, military, and social advantages which will result from railways in India. The saving of time alone will be calculated by weeks, instead of hours as in other countries where railways have been introduced. Whether this saving is considered in reference to the movements of troops, the conveyance of passengers, or the carriage of goods, the advantages will be enormous. The ease and security which is derived from railways will also be more sensibly felt in India than in almost any other country. Troops will be moved without fatigue and danger to health, and Government will be enabled to concentrate them at any given point at a few hours' notice; merchandize will be conveyed without the damage and loss to which it is subject by road or river transit; and the facilities for personal intercourse, and for the spread of intelligence afforded thereby, will not fail to improve the social condition of the country.

Light railways.

172. It would not be within the scope of a Report of this character to enter into a full consideration of the policy of the guarantee system, or to inquire into the expediency of retaining the construction and management of railways in the hands of Government, although both are questions which have been much discussed in respect of Indian undertakings. Nor is it my province to examine into the question of the applicability of light railways and tramways to the requirements of India. I would only suggest, with reference to this question, that it should be borne in mind that the railways hitherto sanctioned are trunk lines, intended as the main arteries of communication throughout the country, from which branches will ultimately strike out, and that their objects would have been but imperfectly fulfilled, if they had not been constructed of so solid and permanent a character as to ensure an uninterrupted traffic throughout the year, and to afford the means of high-speed locomotion. Their cost has, in some instances, and from unforeseen circumstances, disappointed expectation. The average will, however, upon the whole, show a moderate outlay. But the conditions which have regulated their construction need not, necessarily, be applied to branch lines, which, for the most part, will be executed for local purposes.

Conclusion.

173. I feel, Sir, that in some of the observations which I have ventured to submit, I may have already transgressed the strict limits of an official Report. But it appeared to me that the novelty of the system which has been applied to railways in India justified a review of the circumstances under which that system was introduced, as well as an explanation of the basis upon which it is founded. And the great stake which the Government has in these undertakings furnished

me, I thought, with an excuse for examining their prospects of success, in order that it might be seen what grounds exist for the hope that the Indian revenue will ultimately be relieved from the payment of the guaranteed interest, and that the 15,224 shareholders who have embarked their money in them have made a profitable investment. Conclusion.

I have the honour to be,
Sir,
Your most obedient, humble Servant,
JULAND DANVERS,
Secretary, Railway and Telegraph Department.

APPENDIX.

FORM OF DEED OF CONTRACT.

THE following are the provisions contained in the Deeds of Contract between the Government of India and the Railway Companies:—

1. That it shall be lawful for the Secretary of State in Council to determine, fix upon, and select the route and direction of a line of railway, to commence at or near to , and to proceed to or near , and such selected line of railway, of an estimated cost to be approved of by the Secretary of State in Council, shall be completed by the said Railway Company, and opened for the conveyance of passengers and goods with all practicable speed. Selection of line.

2. That the Secretary of State in Council shall give notice to the said Railway Company of the line when so selected as aforesaid, or of any part or parts thereof, as such part or parts shall from time to time be fixed upon; and it shall be lawful for the Secretary of State in Council, from time to time, to alter the said route or direction, or to extend or limit the same as they shall think fit, after such notice as aforesaid: Provided always, that if such alteration of route or direction shall be made after the said railway shall have been commenced in a previously selected route or direction, the expense of the said railway, or in any way incident to the said alteration, shall be considered as properly incurred by the said Railway Company. Notice of line.

3. That the Secretary of State in Council shall, after the selection of the route and direction of the said line of railway, or of any part or parts thereof, and from time to time as may be necessary, provide the land which shall be required for the said railway, or for the part or parts thereof so selected, and the works connected therewith, and for proper stations, offices, warehouses, and other conveniences for the same, and shall give to the said Railway Company possession thereof, and that all land of which possession shall be so given to the said Railway Company which shall not be permanently required for the purposes of the said Railway Company shall, as soon as practicable, be restored and delivered up by the said Railway Company to the Government of India for the use of Her Majesty, her heirs and successors, for the purposes of the Government of India. Land.

4. That the said Railway Company shall, on receiving possession of the same land, or any part thereof, forthwith and subject to the supervision and control herein-after prescribed, commence and proceed with diligence in the construction of the said line of railway, and of all such stations, offices, warehouses, fixed machinery, and other works and conveniences as in the opinion of the Secretary of State in Council (such opinion to be certified in writing) shall be necessary or expedient, as well with reference to the original construction of the said railway, and the working thereof, as with reference to the permanent maintenance thereof, and its protection from injury or destruction by inundation, tempests, or other causes whatsoever; and such railway shall be made at such gradients, and shall be furnished with rails of such weight and strength, and laid down and secured in such manner, and shall consist either of a single or double line of railway as the Secretary of State shall in writing direct, and shall, if required by the Secretary of State in Council, and at such time or times as they shall in writing require, be provided with an electric telegraph, constructed along all or such part or parts of the said railway, and upon such principle and under such regulations as to its use, and the terms of its use, as the Secretary of State in Council shall in writing direct or approve of; and the said Railway Company shall, from time to time, attend to execute and perform all such directions in writing as may from time to time be given by the Secretary of State in Council for any deviations from or alterations in any directions or requisitions previously made or given with respect to the premises. And the said Railway Company shall, as soon as the said railway shall be completed for such a distance as in the opinion of the Secretary of State in Council shall be desirable, open the same for the conveyance of passengers and goods. Works.

5. That it shall be lawful for the Secretary of State in Council, from time to time, by notice to the said Railway Company, to require any specified part or parts of the said line of railway to be completed as aforesaid, and to be opened for the conveyance of passengers and goods before the remaining part or parts thereof shall be constructed, and such requisitions shall be complied with and fulfilled by the said Railway Company. Opening.

6. That the said Railway Company shall pay into the Bank of England, to the account of the Secretary of State in Council of India, the sum of not less than , which, with the sum of , will make up in all the sum of sterling, by such Money capital.

instalments and at such times as the Secretary of State in Council may require, and such payments may be made in sums of not less than each, in London, provided that if the said Railway Company shall receive any portions of the capital already subscribed, or hereafter to be subscribed, in India, it shall be lawful for them to pay the amount so received in sums of not less than rupees into the treasury at , in or towards satisfaction of the said instalments, and the acknowledgments of such respective payments there shall, when produced to the Secretary of State in Council in London, be considered and taken in part satisfaction as on the days of payment thereof respectively of the said sum of , at the exchange of 1*s.* 10*d.* for each Company's rupee: Provided always, that such payments into the treasury at shall not exceed the amounts which may from time to time be required for expenditure in India, such limit being determined upon by the Secretary of State in Council.

Draft on capital.

7. That as often as, and when any money shall be required by the said Railway Company for any purposes in connexion with the said line of railway, sanctioned by the Secretary of State in Council, and with reference to the particular sums from time to time required, only so far as such purposes shall have been performed to the satisfaction of the Secretary of State in Council, or when any money shall be required for the performance of works in connexion with the said line of railway, sanctioned by the Secretary of State in Council, while the same shall be in course of execution, the same may be drawn in such sums as shall, from time to time, be necessary, by the said Railway Company in London or in India, according to such arrangements as shall be made from time to time with the Secretary of State in Council for that purpose; but ten days' notice of every such draft, or proposed draft, shall be given to the Secretary of State in Council, or to the Government of India, or to such Lieutenant Governor or such authority as the said Government of India may direct; and all sums of money which shall be so drawn at shall be set off at the exchange of 1*s.* 10*d.* for each Company's rupee against the said sum of sterling, or so much thereof as shall have been paid into the Bank of England to the account of the Secretary of State in Council as aforesaid; and the said Railway Company shall not in any case be entitled to draw in London or in India to an extent greater than the balance in their favour for the time being in respect of the capital raised for the said line of railway.

Plant, fares, and tolls.

8. That when and so soon as the said line of railway, or any part or parts thereof which shall have been required by the Secretary of State in Council to be completed before the construction of the other parts, shall be completed and ready to be opened for the use of the public, and so, from time to time, as any such part thereof shall be so completed and ready to be opened, the said Railway Company shall and will, subject to the supervision and control herein-after mentioned, provide to the satisfaction of the Secretary of State in Council a good and sufficient working stock of engines, carriages, and other plant and machinery for working the said railway, or such part or parts thereof as shall have been completed as aforesaid, and carrying on the business and traffic of the same, and the said Railway Company shall and will forthwith commence and carry on the business of common carriers of goods and passengers upon the said railway, and for that purpose shall cause to be run on the said railway so many trains, at such times and at such rates of speed, and between such places, and with such conveniences and accommodations as the Secretary of State in Council shall from time to time require. And the said Railway Company shall and will allow the use of the said railway to the public on such terms as shall be approved by the Secretary of State in Council; and the said Railway Company shall be authorized and empowered to charge such fares for the carriage of passengers and goods, and such tolls for the use of the said railway as shall have been approved by the said Secretary of State in Council, and shall not in any case charge any higher or different fares or tolls whatsoever without such approval being first obtained; but such fares or tolls shall, when such net receipts as are herein-after mentioned shall in any year have exceeded ten per cent. upon the outlay, be reduced in accordance with any requisition of the Secretary of State in Council in that behalf, but only with a view of limiting the said fares and tolls so far that the net receipts shall not exceed ten per cent. as aforesaid.

Title to land.

9. That upon the completion of the said line of railway, or of any part or parts thereof which shall have been required by the Secretary of State in Council to be completed before the construction of the remaining part, the Secretary of State in Council shall and will grant to the said Railway Company a lease of or otherwise secure to them a right and title to the land which shall have been provided under the provisions in these presents contained, or of so much thereof as shall be required for the completed line, and for the works and conveniences thereto belonging for a term of ninety-nine years, commencing from the day of the date of these presents, unless the same shall be sooner determined under the provisions herein contained, and the Secretary of State in Council shall guarantee to the said Railway Company the quiet and undisturbed possession of such land, but shall not be called upon to show any title thereto.

Supervision; Government Director may be appointed; his powers and privileges.

10. That the said Railway Company and their officers, servants, and agents, as also their accounts and affairs, shall in all things be subject to the superintendence and control of the Secretary of State in Council, as well in England as elsewhere, and in particular that no bye-laws, contracts, orders, directions, proceedings, works, or undertakings, acts, matters, or things whatsoever, shall be made, done, entered into, commenced or prosecuted by or on the

part of the said Railway Company, unless previously sanctioned in writing by the Secretary of State in Council, or in some other manner to be prescribed by them, and that no monies shall be raised by the said Railway Company by any other means than by calls upon or payments in respect of the Shares in the same Company, without the sanction of the Secretary of State in Council in writing, and no extension in the number of shares in the said Railway Company or in the amount of its capital shall be made, unless sanctioned in like manner; and that it shall be lawful for the Secretary of State in Council, from time to time, to give to the said Railway Company, their officers, servants, and agents, all such orders and directions as the Secretary of State in Council shall from time to time think fit, with reference to the railway and works to which this present contract relates, and with reference to the manner and times of executing the same, and with reference to any contracts, orders, and directions to be entered into, made, or given with regard thereto, and otherwise with reference to the same, all which contracts, orders, and directions shall be executed and followed by the said Railway Company, to the satisfaction of the Secretary of State in Council, the costs and expenses of the same, which shall have been allowed and sanctioned by the Secretary of State in Council, being paid out of the capital of the said Railway Company, raised for the purposes of this present contract: And that for better enabling the Secretary of State in Council to exercise the control and direction intended to be hereby secured, the said Railway Company shall record and keep in proper books for that purpose full and particular accounts of all their transactions and proceedings, including full and true minutes of all their meetings, meetings of Directors, communications with India, and correspondence, so as at all times to exhibit thereby fully and truly the state of their affairs and proceedings; and that the Secretary of State in Council, and any person or persons appointed by him in that behalf, shall at all reasonable times have free access to all the books, accounts, papers, and documents of the said Railway Company (except communications between the said Railway Company and their legal advisers), and power to make copies of or extracts from the same, whether such books, accounts, papers, and documents relate to the said railway and works, or to any other matters and things whatsoever in which the said Railway Company shall or may be interested; and for the purposes aforesaid it shall be lawful for the Secretary of State in Council, from time to time, to appoint any one person, not being a shareholder, in the said Railway Company, to be a Director of the said Railway Company, to be called the Government Director, which Director, if and when appointed, shall rank as and be one of the Board of Directors of the said Company, and be entitled in all things to act as such, and to exercise at his discretion a right of veto in all proceedings whatsoever at Boards of the said Directors, except proceedings for the purpose of communicating with the legal advisers of the Company, and shall not be removable except by order of the Secretary of State in Council, and shall, in case the whole number of Directors shall at the time of his appointment be filled up, come and be in the place of the Director who shall retire from the direction according to the decision of the Board, such decision being taken by ballot, but such Government Director shall not be entitled to any salary from the said Railway Company: Provided always, that nothing herein-before contained shall authorize the Secretary of State in Council to appoint any officer or servants of the said Railway Company, except such Government Director as aforesaid.

Sanction of expenditure.

11. That all the expenses of the said railway, in respect of the said line of railway, shall from time to time be stated and submitted to the Secretary of State in Council, for his sanction and approval, and as between the said Railway Company and the Secretary of State in Council, shall be allowed so far only as the same shall from time to time have been sanctioned and approved by the Secretary of State in Council: Provided always, that the last-mentioned stipulation shall not interfere with any such subsidiary agreement or agreements (if any) as from time to time may be made between the said Railway Company and the Secretary of State in Council, for the performance of any part or parts of the said railway and works, at any sum or sums of money to be specified in such subsidiary agreement or agreements, in which case the expenses in respect of the same shall be allowed and taken at the sum or sums which shall be so agreed upon.

Capital account

12. That a capital account relating to the construction of the said line of railway, and the works, conveniences, and telegraphs thereto belonging, and relating to the original cost of engines, carriages, plant, and machinery provided for the purposes of the said line, to be called "The Capital Account," shall be kept by the said Railway Company, to which account all monies paid by the said Railway Company, the expenditure of which shall have received the sanction and approval of the Secretary of State in Council, shall from time to time be carried, and when and so soon as the said railway and works shall have been completed and furnished with the necessary rolling stock and plant, or at any earlier time or times, if the Secretary of State in Council shall require the same, the said capital account shall be made up, and a statement shall be furnished to the Secretary of State in Council of the aggregate amount of capital which, according to such account, shall have been expended, and such amount shall, by examination of such account, be ascertained and certified by the Secretary of State in Council, and thenceforth and from the opening of the said line of railway or any part thereof, the cost of maintaining it, with its machinery and stock in good working condition, shall be payable by the said Railway Company out of the revenue of the said railway, including any interest to be received from the Secretary of State in Council, as herein-after is mentioned; but upon any additions, alterations, or improvements, such as shall properly be chargeable to the capital account, being thereafter made, with the sanction and

approval of the Secretary of State in Council to, of, or in the said railway, or the works, conveniences, or telegraphs thereto belonging, or the engines, carriages, and other plant and machinery belonging thereto, the cost necessarily incurred in executing such additions, alterations, or improvements shall be added to the said capital account, and the said capital account shall from time to time be made up and stated afresh as occasion shall require, and be ascertained and certified accordingly.

Repair and maintenance of rolling stock.

13. That at all times during the said determinable term of 99 years the said Railway Company shall keep the said railway, or so much thereof as shall be completed and opened for traffic, and the works and conveniences belonging thereto, and the telegraphs on the said railway (if any) in a state of good repair, and in good working condition, to the satisfaction of the Secretary of State in Council, and shall keep the same fully provided with rolling stock and plant adequate to the service thereof to the satisfaction of the Secretary of State in Council.

Revenue account.

14. That the said Railway Company shall, in such forms and under such heads or divisions as shall be prescribed by the Secretary of State in Council, keep accounts of all receipts and payments whatsoever in respect of the said line of railway (other than such receipts and payments as properly belonging to the capital account herein-before agreed to be kept), and such accounts shall be called "The Revenue Accounts," and shall be made up half-yearly to the 30th day of June and the 31st day of December in every year, or to such other days in the year as the Secretary of State in Council shall appoint, and shall be regularly transmitted to the Secretary of State in Council, who shall be at liberty at all times, in auditing the same accounts, to make any corrections therein which may be necessary.

Deposit of revenue, and drafts thereon.

15. That all the earnings of the said railway, received by or on account of the said Railway Company in India, shall be paid at such times and in such manner as the Secretary of State in Council shall direct, without any deduction under any pretence whatever, into the Treasury of the Government of India at , to an account to be kept separately, to be called "The Revenue Account," and when any money shall be required by the said Railway Company for any purposes in connexion with the said Railway, sanctioned by the Secretary of State in Council, such money may be drawn by the said Railway Company according to such arrangements as shall from time to time be made with the Secretary of State in Council for that purpose.

Guarantee of interest.

16. The Secretary of State in Council shall, from time to time during the determinable term of 99 years, pay out of the revenues of India to the said Railway Company in London, half-yearly, on the 30th day of June and the 31st day of December in every year, interest at the rate of per cent. per annum on the said sum of sterling, or on such parts thereof as shall for the time being have been paid into the Bank of England, to the account of the Secretary of State in Council, or into a treasury in India, as aforesaid, such interest upon any part of the said sum of being considered, in the first instance, as running from the day on which the same part shall have been so paid into the Bank of England to such account.

Excess above.

17. That if the expenditure of the said Railway Company in making the said railway and works, or otherwise in respect of the matters to be included in the said capital account, shall exceed the said sum of , the money necessary to meet such excess shall be raised and paid by the said Railway Company into the Bank of England, to the account of the Secretary of State in Council, and the Secretary of State in Council shall, from time to time, during the then residue of the said determinable term of 99 years, pay out of the revenues of India to the said Railway Company, half-yearly, on the days aforesaid, interest at the rate of per cent. per annum, such interest on the same monies to be calculated from the respective times when they shall have been so paid into the Bank of England as aforesaid.

Application of profits.

18. That so soon as the said Railway Company shall begin to work the said line of railway, or any part thereof, and henceforth during the said determinable term of 99 years, the net receipts which shall be realized during any half-year, or from the commencement up to the first of the aforesaid half-yearly days on the said line of railway, or on any part thereof, after deducting therefrom all sums which shall have been expended in the repairs and maintenance of the said line of railway and works, and the repair and restoration of the rolling stock and plant belonging thereto, or have been duly apportioned to the account of the said line of railway for expenses of management and conduct of the said Railway Company and its affairs, and which shall have been allowed or sanctioned by the Secretary of State in Council, and also deducting such sum (if any) as, with the consent of the Secretary of State in Council, may be appropriated and set apart for repairing,* restoring, and making good any deterioration of the railway and works or stock and plant, and for the current expenses of working the said railway (the money to be so appropriated and set apart as a reserve fund, or any part thereof, being invested and accumulated or otherwise dealt with, till required for application in any manner the said Railway Company may think fit, subject to the sanction and approval of the Secretary of State in Council), shall be applied, in the first instance, in or towards discharge of the interest, which shall be payable by the Secretary of State in Council under their covenants in this indenture contained, in respect of the said half-year, so as to exonerate the Secretary of State in Council, so far as the same net receipts will extend, from the payment of such interest,

* In the case of the Indus Steam Flotilla, the contract provides for the establishment of two funds, viz., the "Insurance and Contingencies Fund" and the "Depreciation Fund," which are to be formed and kept up by the application of a certain percentage of the profits.

the money to be so applied being reckoned at the fixed and permanent exchange of 1*s.* 10*d.* per Company's rupee, and the residue (if any) of such net receipts shall be applied in manner following, that is to say, one moiety thereof shall be forthwith applied in the repayment of such sums of money as shall at any previous time or times have been paid by the Secretary of State in Council to the said Railway Company under the covenants in this indenture contained, by way of interest as aforesaid, together with simple interest on such sums of money at the rate of per cent. per annum from the times of payment respectively, and such moiety shall be paid into the Treasury of the Government at , and shall be reckoned at the said rate of exchange, and shall be applied in reduction and discharge of the whole of the interest payable to the Secretary of State in Council on the said sums of money, before the same shall be applied in liquidation of any part of the principal thereof, and the other moiety of the said surplus net receipts shall be paid to or applied for the use and benefit of the said Railway Company; and if, at any time during the determinable term of 99 years, the whole of the monies previously paid by the Secretary of State in Council as aforesaid, with interest thereon, as aforesaid, shall have been repaid and discharged, then for every half-year during such time, and so often as the same shall happen, the said Railway Company shall be entitled, for their own use and benefit, to the entirety of the said surplus net receipts, or, as the case may be, so much thereof as shall remain after such repayment and discharge, as last aforesaid, shall have been made.

Mails and troops.

19. That the said Railway Company will at all times during the said determinable term convey on the said railway the Government mails and post-bags, and the guards and other servants of the Post Office in charge thereof, free of charge; and, when they are on duty, all officers and persons in the administration of the Post Office also free of charge, and will also convey on the said railway, when they are on duty, the troops in Her Majesty's service, both horse and foot, and all other persons to whom the provisions of the Mutiny Acts and Regulations for the time being in force for Her Majesty's European and Indian forces respectively shall be applicable, and all artisans on the business of the Government; the officers and persons of similar station in life to be entitled to travel in first-class carriages at second-class fares, and the troops and European artisans in second-class carriages at the lowest fares, and all other persons at the lowest fares, with two tons of baggage for every hundred men, free of charge, and will also convey on the said railway all general stores belonging to the Government, and all guns, ammunition, horses, and other animals used for military purposes, and all military stores, carriages, waggons, camp equipage and equipments whatsoever, at the lowest rate, for the time being, chargeable for the carriage of such animals, goods, and merchandise, the several privileges of conveyance and carriage hereby stipulated for, being at all times to be used and enjoyed in preference to and priority over the public use of the said line of railway for conveyance and carriage.

Ultimate rights of property.

20. That at the end of the said term of 99 years, by effluxion of time, the land to be provided as aforesaid, with the railway thereon, and all buildings, works, fixed machinery, telegraphs, and conveniences whatsoever, shall revert to and become the property of Her Majesty, her heirs and successors, for the purposes of the Government of India, free from all debts and charges whatsoever (save such as shall have been sanctioned by the Secretary of State in Council), and any lands in Great Britain which may then be held by the said Railway Company for the purposes of the undertaking to which this contract relates shall be sold, and the clear monies produced by any such sale shall be paid into the Bank of England to the account of the Secretary of State in Council, and the said Railway Company shall deliver to the Secretary of State in Council their property on the same account, all plans, surveys, sections, books, printings, writings, drawings, and documents whatsoever in anywise connected with the undertaking and affairs of the said Railway Company, so far as respects the said line of railway. And the said Railway Company shall sell, and the Secretary of State in Council, on behalf of Her Majesty and for the purposes of the Government of India, shall purchase all the engines, carriages, stock, machinery, and plant, which shall be then used in working the said railway, or otherwise in connexion therewith, or belonging thereto, for such sum of money as shall be the fair value thereof, the same to be determined in case of difference by a valuation, to be made by referees or their umpire, to be respectively appointed in the usual manner. And the Secretary of State in Council shall pay out of the revenues of India to the said Railway Company in London the sum of money to be so determined within four months after such determination, with interest thereon, at the rate of five per cent. per annum, from the expiration of the said term of 99 years.

Surrender.

21. That after any portion of the said line of railway shall have been finished and in work for three calendar months at least, it shall be lawful for the said Railway Company then or at any time thereafter during the said term of 99 years, to give notice in writing of their intention to surrender and relinquish the said railway and works on any day to be mentioned in such notice, so that such notice be served at least six calendar months before that day, both on the Secretary of State in Council in London, and also on the Secretary of Government at ; and in case of such notice being given, the said Railway Company shall, at the expiration thereof, surrender and relinquish to Her Majesty, for the purposes of the Government of India, the said line of railway and works accordingly, together with the telegraphs (if any), and shall, with all convenient speed, sell any lands in Great Britain which may then be held by the said Railway Company for the purpose of the undertaking to which this contract relates, and pay the clear monies to be produced by such sale into the Bank of

England, to the account of the Secretary of State in Council of India; and shall deliver to the Government, or their authorized agents on behalf of Her Majesty, for the purposes of the Government of India, the engines, carriages, stock, plant, and machinery belonging to the said line of railway and works, and all plans, surveys, sections, printings, writings, drawings, and documents whatsoever connected therewith, and the premises to be so surrendered and delivered shall be accepted and received accordingly, it being expressly agreed that the said line of railway, works, stations, telegraphs, engines, carriages, stock, plant, and machinery shall, at the time of such surrender and delivery, be in good working order, according to the covenant in that behalf herein-before contained on the part of the said Railway Company; and immediately upon such surrender and delivery being made, the Secretary of State in Council shall be bound to pay out of the revenues of India to the said Railway Company the capital expended by the said Railway Company upon the said railway, works, and premises so to be surrendered and delivered, such expended capital being ascertained and certified in the manner herein-before mentioned, together with such parts (if any) of the capital raised for the purposes of this contract as shall remain in the Bank of England, to the account of the Secretary of State in Council, and to discharge and indemnify the said Railway Company from all debts and liabilities incurred with the sanction of the Secretary of State in Council in respect of the said line of railway; and thereupon the covenants herein-before contained for payment of interest shall cease as from the day upon which the said line of railway and works are to be surrendered and accepted; and all claims by the Secretary of State in Council, on account of interest on the said Railway Company in respect of the said line of railway, shall also cease, and the Secretary of State in Council shall be at liberty to retain out of any monies payable to the said Railway Company, the amount of all claims and demands of any sort then existing against the said Railway Company on their revenue account, in respect of their said railway, and which shall not be shown to have been fully satisfied and discharged: Provided always, that the Secretary of State in Council shall not be liable to refund any sum expended in the maintenance or working of the said line of railway, or any part thereof, after the same shall have been opened, which sum is to be provided by the Railway Company out of the revenues of the line, and interest, as herein-before provided, or otherwise.

Purchase.

22. That at any time within six calendar months after the expiration of the first twenty-five years of the said term of 99 years, or at any time within six calendar months after the expiration of the first fifty years of the same term, it shall be lawful for the Secretary of State in Council to give notice to the said Railway Company in London and at of their intention to purchase, on behalf of Her Majesty, for the purposes of the Government of India, the said railway and works, together with the stations and telegraphs (if any), and the engines, carriages, stock, plant, and machinery belonging to the said railway and works, but subject to such debts and liabilities (if any) as may have been incurred to Her Majesty, or to the Secretary of State in Council (exclusive of any arrears of the interest on the capital of the said Railway Company paid by the Secretary of State in Council, under the conditions of this agreement, which shall not have been repaid), or to any person or persons with the sanction of the Secretary of State in Council, and to interest on such of the said debts as carry interest, from the day on which possession shall be taken of the said railway, but not from any earlier time, and thereupon, at the half-yearly day next but one following such notice, the land to be provided as aforesaid, with the railway thereon, and all buildings, works, fixed machinery, stations, telegraphs, and conveniences whatsoever connected therewith, shall revert to and become the property of Her Majesty, for the purposes of the Government of India; and in case any lands in Great Britain shall then be held by the said Railway Company for the purpose of the undertaking to which this contract relates, the same shall be sold, and the clear monies to be produced by such sale shall be paid into the Bank of England to the account of the Secretary of State in Council of India; and the said Railway Company shall, at the same time, deliver to the Government, or their authorized agents, on behalf of Her Majesty, for the purpose of the Government of India, the engines, carriages, stock, plant, and machinery belonging to the said line of railway and works, and all plans, surveys, sections, books, printings, drawings, writings, and documents whatsoever in anywise relating thereto; and the Secretary of State in Council shall be bound to pay in London, out of the revenues of India, on the said half-yearly day, for the purchase of all the same premises, a sum equal to the amount of the value of all the shares and capital stock in the said Railway Company issued or created for the purposes of the said Railway, calculated according to the mean market value in London of such shares or stock, during the three years immediately preceding the expiration of the said period of twenty-five years, or the said period of fifty years, as the case may be, and shall also be bound to indemnify the said Railway Company against all such debts and liabilities (if any) as they may have incurred, to or with the sanction of the Secretary of State in Council, in respect of the said line of railway, and as shall be then subsisting, and thereupon the covenants herein-before contained for payment of interest shall cease.

Possession as a remedy.

23. That if default shall be made by the said Railway Company in the raising and payment of the said sum of , or any of the instalments thereof, or of such further capital as shall be required for the construction of the said railway, or in the due application of any monies drawn in London or in India as aforesaid, or in the execution of the said

railway and works conformably with the covenants in that behalf herein-before contained, or in case the said railway shall not be worked to the satisfaction of the Secretary of State in Council, or in case of any other breach on the part of the said Railway Company of any of the covenants herein contained, it shall be lawful for the Secretary of State in Council, on giving to the said Railway Company at three calendar months' notice of their intention in that behalf, to terminate the interest of the said Railway Company in the said land, railway, telegraphs, and works to be taken or constructed under these presents, and by their agents to assume on behalf of Her Majesty, for the purposes of the Government of India, possession of the land, railway, telegraphs, and works, and of all or any of the engines, carriages, stock, plant, and machinery provided for the same or belonging thereto; and all plans, surveys, books, printings, drawings, writings, and documents whatsoever in anywise connected with the said line of railway, and in that case any lands in Great Britain which may then be held by the said Railway Company for the purpose of the undertaking to which this contract relates shall, with all convenient speed be sold, and the clear monies to be produced by such sale shall be paid into the Bank of England, to the account of the Secretary of State in Council. And in case of such notice being given, the Secretary of State in Council shall be liable to repay, out of the revenues of India, within six calendar months after its expiration, to the said Railway Company in London, the capital expended by the said Railway Company upon the said railway and works, so ascertained and certified as herein-after is mentioned, after a proper deduction for all debts and liabilities then affecting the said Railway Company, in respect of the said line of railway, the money so to be repaid to include so much (if any) of the capital raised for the purposes of the said line of railway as shall then remain in the Bank of England, to the account of the Secretary of State in Council; and also to discharge, exonerate, and indemnify the said Railway Company from all debts, obligations, and liabilities for works and expenditure undertaken, with the sanction of the Secretary of State in Council, in respect of the said line of railway, and thereupon the covenants of the Secretary of State in Council in this indenture contained for payment of interest shall cease, and all claims by the Secretary of State in Council on the said Railway Company, in respect of the said line of railway, shall also cease, the intention of the parties hereto being that the said Railway Company shall, under all circumstances, receive back their capital expended with such sanction as aforesaid, and that such re-entry and assumption of possession, and the exercise by the Secretary of State in Council of the powers and authorities by this clause given to them, shall be the only penalty to which the said Railway Company shall be liable in case of default in raising sufficient capital for the purposes of the said line of railway, or in constructing and working the said railway to the satisfaction of the Secretary of State in Council.

Repairs by the Government of India.

24. That if default shall be made by the Railway Company, after the said line of railway, or any portion thereof, shall have been opened, in their covenant to keep the said line of railway and works, or such part thereof as shall have been completed and opened for traffic, in repair and condition for the space of one calendar month next after notice in writing in that behalf from the Secretary of State in Council to the said Railway Company at it shall be lawful for the Secretary of State in Council, by their agents, to enter on the said line of railway and works, and to do and execute all such works as may be required for fulfilling the said covenant, and to charge the expenses of the same against the said Railway Company, by setting off the amount of such expenses against any monies then payable, or which shall thereafter become payable by the Secretary of State in Council, for interest in manner herein-before mentioned, which interest shall, in such case, to that extent, be considered as paid and satisfied by such set-off or retainer; and shall, for all the purposes of these presents, be regarded and considered as interest actually paid by the Secretary of State in Council to the said Railway Company in pursuance of their covenants in that behalf, herein-before contained, and if such expenses shall not be satisfied by such set-off and retainer as aforesaid, then the Secretary of State in Council may set off and deduct the same against and from all or any part of any other monies which shall on any account whatsoever, under or by virtue of these presents, be or become payable by the Secretary of State in Council to the said Railway Company.

Annuity commutation.

25. That in every or any case in which, under the provisions of these presents, the Secretary of State in Council shall, before the expiration of the said term of 99 years, become bound to repay the capital expended by the said Railway Company upon the said line of railway and works as aforesaid, or to pay for the purchase of the said line of railway, works and stock, it shall be lawful for the Secretary of State in Council, instead of paying a gross sum of money, in respect of the premises, to declare by notice to the said Railway Company in London their option to pay an annuity, to be reckoned from the time when the gross amount would be payable, and to continue during the residue of the said term of 99 years; and in that case such an annuity shall be payable in London on such two half-yearly days in the year as shall be selected by the Secretary of State in Council in that behalf, with a fractional part for any broken half year, the rate of interest which shall be used in calculating such annuity being determined by the average rate of interest during the preceding two years received in London upon public obligations of the East India Company, and other public obligations in London, by the Secretary of State in Council, and which shall be ascertained by reference to the Governor and Deputy Governor of the Bank of England for the time being: Provided always, that the aforesaid option shall not apply to the undrawn portion (if any) of the capital of the said

Railway Company, raised for the purposes of the said line of railway, which portion is to be repaid to the said Railway Company, with interest, under the provisions in that behalf hereinbefore contained, in case the said Railway Company shall relinquish or be deprived of the said railway and works as aforesaid.

Return of surplus.

26. That if, after the said railway and works, including the telegraphs, if required, shall have been completed and furnished with adequate working stock, the whole of the capital raised by the said Railway Company for the said line of railway shall not have been required for the purpose of the said capital account, the surplus therefore shall, to the extent to which the same shall have been paid into the Bank of England to the account of the Secretary of State in Council, be refunded to the said Railway Company in London, with such interest as shall be due on such capital at the time, and thereupon the aforesaid covenants for payment of interest shall no longer apply to the capital which shall have been so refunded.

Sanction of the Secretary of State in Council.

27. That any notice, direction, approval, or sanction to be given or signified on the part of the Secretary of State in Council, for any of the purposes of these presents, shall be sufficient and binding, if signed by the Secretary of State for India, or one of his under Secretaries, or by the Secretary of Government at , or by any other officer or servant duly authorised to act on behalf of the Secretary of State in Council, in respect to the matters to which the same shall relate, and the Secretary of State in Council shall not in any case be bound in respect of matters aforesaid, unless by some writing signed in the manner before mentioned.

Railway office in, and agent.

28. That the said Railway Company shall keep an office of the said Railway Company at all times hereafter during the said term, established at , or any such other place or places as shall be agreed upon between the Secretary of State in Council and the said Railway Company; and the said Railway Company shall keep at the said office an authorized agent, or authorized agents, with whom the Secretary of State in Council and the Government at may communicate on affairs concerning the said railway; and all drafts drawn by the said agent or agents, and all receipts of and acts done by such agent or agents on behalf of the said Railway Company, or concerning the said railway and works and the affairs thereof, shall be binding on the said Railway Company; and every notice to be given to the said Railway Company shall be sufficiently given if left at the said office or personally served on such agent or agents.

Legislation in India.

29. That the Secretary of State in Council shall promote the passing by the Governor General of India in Council of any Act or Acts which shall be necessary or convenient for enabling the said Railway Company to fulfil in India the objects of their undertaking according to the terms and provisions of these presents.

30. That none of the covenants, terms, and provisions of these said presents shall have any operation upon the provisions contained in the said indenture of the , and that none of the covenants, terms, and provisions of the said indenture shall have any operation upon the provisions of these presents, or shall extend or apply to the said railway and works hereby contracted for. In witness whereof, &c.

TABLES FURNISHING PARTICULARS OF PERSONS EMPLOYED ON OPEN PORTIONS OF INDIAN RAILWAYS.

EAST INDIAN RAILWAY.

Traffic Department.			Howrah Stores Department.			Engineering Department.			Locomotive Department.			Carriage Superintendent's Office.			Steam Ferry, Howrah Department No. 1.		
Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.
63	584	647	14	186	200	18	1,154	1,172	125	308	433	17	410	427	2	23	25

(continued)

Steam Ferry, Calcutta Department No. 2.			Traffic Department, Steam Ferry.			Electric Telegraph Department.			Agent's Office, Revenue Department.			Agent's Office, Ticket Department.			Grand Total.		
Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.
2	23	25	1	10	11	15	80	95	2	8	10	3	3	6	262	2,789	3,051

GREAT INDIAN PENINSULA RAILWAY.

Secretary's Department.			Engineering Department.			Traffic Department.			Locomotive Department.			Total.		Grand Total.
Correspondence, Account and Audit Branches.														
Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	
5	60	65												
Stores Branch.			77	141	218	71	679	750	89	1,127	1,216	257	2,341	2,598
Europeans.	Natives.	Total.	Grand Total.											
15	334	349	414											

MADRAS RAILWAY.

Agent and Manager's Office.			Chief Accountant's Office.			Capital and Revenue Office.			Engineers Department.			General Stores Department.			Traffic Department.		
Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.
11	20	31	7	47	54	18	67	85	8	585	593	16	111	127	66	1,274	1,340

Locomotive Department.			Total.		Grand Total.
Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	
146	1,175	1,321	272	3,279	3,551

STATEMENT SHOWING THE VARIOUS TARIFFS THAT HAVE BEEN TRIED ON INDIAN RAILWAYS.

EAST INDIAN RAILWAY.

1854.		1855.	1858.
PASSENGERS.	GOODS. (*Existing Rates.*)	PASSENGERS.	PASSENGERS. (*Existing Fares.*)
1st Class.—2 annas, or 3*d.* per mile. 2d Class.—9 pies, or 1$\frac{1}{8}$*d.* per mile. 3d Class.—3 pies, or $\frac{3}{8}$*d.* per mile.	1st Class.—$\frac{1}{8}$ of a pie per maund, or 9 pies = 1$\frac{1}{8}$*d.* per ton per mile. 2d Class.—$\frac{1}{4}$ a pie per maund, or 1 anna 1$\frac{1}{2}$ pies = 1$\frac{1}{16}$*d.* per ton per mile. 3d Class.—$\frac{3}{8}$ of a pie per maund, or 1 anna 6 pies=2$\frac{1}{4}$*d.* per ton per mile. 4th Class.—1 pie per maund, or 2 annas 3 pies=3$\frac{3}{4}$*d.* per ton per mile. 5th Class.—2 pies per maund, or 4 annas 6 pies=6$\frac{3}{4}$*d.* per ton per mile. N B.—Coal is conveyed on this line at the rate of 7 pies per ton per mile.	1st Class.—1 anna 6 pies, or 2$\frac{1}{4}$*d.* per mile. 2d Class.—10 pies, or 1$\frac{1}{2}$*d.* per mile. 3d Class.—3 pies, or $\frac{3}{8}$*d.* per mile.	1st Class.—1 anna 6 pies, or 2$\frac{1}{4}$*d.* per mile. 2d Class.—9 pies, or 1$\frac{1}{8}$*d.* per mile. 3d Class.—3 pies, or $\frac{3}{8}$*d.* per mile.

GREAT INDIAN PENINSULA RAILWAY.

1853.		1856.	1857.	1858.
PASSENGERS.	GOODS.	GOODS. (*Existing Rates.*)	PASSENGERS.	PASSENGERS. (*Existing Fares.*)
1st Class,—2 annas, or 3*d.* per mile. 2d Class.—10 pies, or 1$\frac{1}{4}$*d.* per mile. 3d Class.—3 *pies*, or $\frac{3}{8}$*d.* per mile.	1st Class.—14 pies, or 1$\frac{3}{4}$*d.* per ton per mile. 2d Class.—18 pies, or 2$\frac{1}{4}$*d.* per ton per mile. 3d Class.—24 pies, or 3*d.* per ton per mile. 4th Class.—30 pies, or 3$\frac{3}{4}$*d.* per ton per mile.	1st Class.—10 pies, or 1$\frac{1}{4}$*d.* per ton per mile. 2d Class.—14 pies, or 1$\frac{3}{4}$*d.* per ton per mile. 3d Class,—18 pies, or 2$\frac{1}{4}$*d.* per ton per mile. 4th Class.—20 pies, or 2$\frac{1}{2}$*d.* per ton per mile. 5th Class.—30 pies, or 3$\frac{3}{4}$*d.* per ton per mile.	1st Class.—1 anna 6 pies, or 2$\frac{1}{4}$*d.* per mile. 2d Class.—1 anna, or 1$\frac{1}{2}$*d.* per mile. 3d Class.—3 pies, or $\frac{3}{8}$*d.* per mile.	1st Class.—1 anna 6 pies, or 2$\frac{1}{2}$*d.* per mile. 2d Class.—6 pies, or $\frac{3}{4}$*d.* per mile. 3d Class.—3 pies,or $\frac{3}{8}$*d.* per mile.

MADRAS RAILWAY.

1856.		1858.		1859.	
PASSENGERS.	GOODS.	PASSENGERS.	GOODS.	PASSENGERS. (*Existing Fares.*)	GOODS. (*Existing Rates.*)
1st Class.—1 anna 6 pies, or 2$\frac{1}{4}$*d.* per mile. 2d Class.—9 pies, or 1$\frac{1}{8}$*d.* per mile. 3d Class.—4 pies, or $\frac{1}{2}$*d.* per mile.	1st Class.—6$\frac{3}{4}$pies,or, with a small terminal charge, about 1*d.* per ton per mile. 2d Class.—13$\frac{1}{2}$ pies, or, with a small terminal charge, about 1$\frac{1}{2}$*d.* per ton per mile. 3d Class.—20$\frac{1}{4}$ pies, or, with a small terminal charge, about 3*d.* per ton per mile.	1st Class.—1 anna 6 pies, or 2$\frac{1}{4}$*d.* per mile. 2d Class.—6 pies, or $\frac{3}{4}$*d.* per mile. 3d Class.—4 pies, or $\frac{1}{2}$*d.* per mile.	1st Class.—8 pies, or 1*d.* per ton per mile. 2d Class.—10 pies, or 1$\frac{1}{4}$*d.* per ton per mile. 3d Class.—15 pies, or 1$\frac{7}{8}$*d.* per ton per mile. 4thClass.—2 annas, or 3*d.*per ton per mile.	1st Class.—1 anna, or 1$\frac{1}{2}$*d.* per mile. 2d Class.—6 pies, or $\frac{3}{4}$*d.* per mile. 3d Class.—2 pies, or $\frac{1}{4}$*d.* per mile.	1st Class.—8 pies, or 1*d*, per ton per mile. 2d Class.—10 pies, or 1$\frac{1}{4}$*d.* per ton per mile. 3d Class.—1 anna, or 1$\frac{1}{2}$*d.* per ton per mile.

STATEMENT OF THE NUMBER OF PROPRIETORS OF INDIAN RAILWAY STOCK OR SHARES.

Railway Company.	Number of Proprietors holding Shares of the value of 1,000*l.* and upwards.	Number of Proprietors holding Shares of less than 1,000*l.* value.	Total Number of Shareholders.
East Indian	2,672	3,185	5,857
Great Indian Peninsula	1,660	2,200	3,860
Madras	1,033	1,023	2,056
Sind	328	291	619
Sind, Punjaub	402	298	700
Sind, Indus Steam Flotilla	89	200	289
Bombay, Baroda, and Central India	356	550	906
Eastern Bengal	113	312	425
Great Southern of India	97	73	170
Calcutta and South-Eastern	40	302	342
Total	6,790	8,434	15,224

CLASSIFICATION OF GOODS.

The following Lists show of what Articles the different classes of Goods consist:—

FIRST CLASS.

Bones for Manure.
Bricks.
Country Potash.
Clay Loam or Earth.
Coke.
Firewood.
Flags.
Iron in Pigs.
Iron Railway Bars.
Lime or Chunam.
Manure.
Ores.
Returned Empties (of all sorts).
Salt.
Sand.
Stones.
Timber unwrought, in pieces not exceeding 16 feet in length.
Tiles.

SECOND CLASS.

Alum.
Anchors.
Arrow-root.
Bale or Piece Goods, consisting of Cotton, Woollen, or Piece Fabrics (at owner's risk).
Bamboos.
Bark for Tanning.
Baskets.
Beans.
Beetlenuts.
Bitumen.
Bones, not otherwise classified.
Borax.
Brooms or Brushes, country made.
Cannon Balls.
Chains.
Chalk.
Charcoal.
Chillies.
Cocoanuts or Shells.
Coir and Coir Rope.
Cotton, raw.
Dammer.
Dye Woods.
Earthenware (common).
Fish, Dried or Salt.
Flax or Tow.
Flour or Bran.
Fruits or Leaves, dried.
Fullers' Earth.
Furniture, viz., country made, and not polished or carved.
Ghee, in barrels or tubs.
Gourds.
Grain, Wheat, Barley, Oats, Rye, &c.
Gram.
Grindstones.
Gum.
Gunny Cloths or Bags.
Hemp and Hempen Ropes.
Hides or Skins.
Horns.
Iron and Steel, in Bars.
Iron, viz., Boilers, Tanks, Forgings, or Plain Castings, not exceeding 16 by 7 by 6 feet, or 30 maunds weight, Bar, Rod, Sheet, Plate, or Hoop, Bolts, Spikes, Nails, Screws, Quarrying or Agricultural Tools, Vices, Anvils, Nuts, Washers, Pipes, &c.
Jaggree.
Jute and Jute Yarn.
Lac and Lac Dye.
Lead in pigs, &c.
Leather, country or common European.
Marble, in blocks, not polished.
Mats, Durmah, or Floor.
Molasses.
Nuts.
Ochre.
Oil, in casks.
Oil Cake.
Onions.
Paint, in casks.
Paper, coarse or mopping.
Paun, or Beetle Leaves.
Pitch, Tar, Rosin, in casks
Plants, Shrubs (charged by measurement).
Potash, European.
Potatoes or other Roots.
Rags.
Rice.
Saltpetre.
Seeds of all sorts not otherwise classified.
Shells.
Soap, country or common European.
Soda Water, Ginger Beer, and Lemonade, in cases.
Starch.
Staves for casks.
Sugar, unrefined.
Sugar or other Canes.
Talc.
Tallow or Lard, in casks.
Thread, Cotton, Flax or Woollen.
Timber, unwrought, and in pieces exceeding 16 feet long, or wrought into Planks, Agricultural or other Tools, Doors, Sashes, or House Fittings, if not damageable, will be carried in this class.
Twist or Yarn, Cotton or Woollen.

THIRD CLASS.

Ale or Beer, in casks or cases.
Bacon.
Bellows.
Bottles, empty.
Bread and Biscuits.
Brushes, European manufacture.
Butter, in casks or tubs.
Canvas.
Carpets.
Copperas.
Catch.
Feathers.
Felt.
Files.
Fruits, common country, fresh.
Furniture, packed, and not damageable.
Ginger.
Groceries, heavy.
Hams, cured.
Hardware and Ironmongery, not otherwise classified.
Hay, Straw, Reeds, &c. (carried at owner's risk).
Hosiery, Cotton or Woollen.
India Rubber.
Indigo and Indigo Seed.
Iron, in Castings or Forgings, Boilers or Tanks, exceeding the dimension allowed in the second class, but not exceeding 25 by 7 by 6 feet, or 45 maunds weight.
Military Baggage, not including Gunpowder or such explosive materials.
Lead, in Pipe or Sheets.
Machinery, in pieces or cases, not exceeding 25 by 7 by 6 feet, or 45 maunds weight.
Opium.
Paper, Writing, &c.
Pepper.
Porter, in casks or cases.
Provisions, Salt.
Quills.
Shoes or Sandals, country made.
Silk, Raw.
Snuff.
Spirits, Brandy, Gin, Rum, &c. Arrack, Whiskey, &c., in wood.
Sugar, refined.
Tents.
Tobacco.
Turmeric.
Varnish.
Vegetables.
Vinegar, in wood or cases.
Wax.
Wearing apparel, Cotton, Flax, or Woollens.
Wine, in wood.

FOURTH CLASS.

Books.
Camphor.
China-ware.
Chanks.
Clocks, plain, in wooden cases.
Cochineal.
Confectionery and Sweetmeats.
Coral.
Cutlery.
Drugs, not otherwise classified.
Eggs.
Elephants' teeth.
Fish and Game.
Furniture, wrapped in mats or cloth, and damageable.
Furs.
Glass and Glass-ware (carried at owner's risk).
Grapes.
Guns and Pistols.
Hats and Caps.
Hosiery, Silk.
Ivory.
Lace.
Lead Pencils.
Marble, polished or wrought.
Medicines, not otherwise classified.
Millinery.
Military accoutrements, Swords, Musical Instruments, Bayonets, Pouches, &c.
Oilman's Stores, not otherwise classified.
Perfumery, Scented Soaps, &c.
Shoes and Boots, of European Manufacture.
Saddlery, Whips, and Harness.
Silk, Manufactured.
Shawls.
Spirits, in bottles and cases.
Spices, not otherwise classified.
Sundries, in boxes or cases.
Tea.
Toys.
Turpentine.
Wine, bottles and cases.

FIFTH CLASS.

Bank Notes and Bills.
Coins of Gold, Silver, or Copper.
Engravings.
Gold Lace or Thread.
Gold, in a manufactured or unmanufactured state.
Jewellery or Trinkets.
Paintings or Drawings.
Plate and Plated-ware.
Silver, in a manufactured or an unmanufactured state.
Silver Lace or Thread.
Stamps or Securities.
Statuary.
Timepieces, ornamental.
Watches.
Writings.

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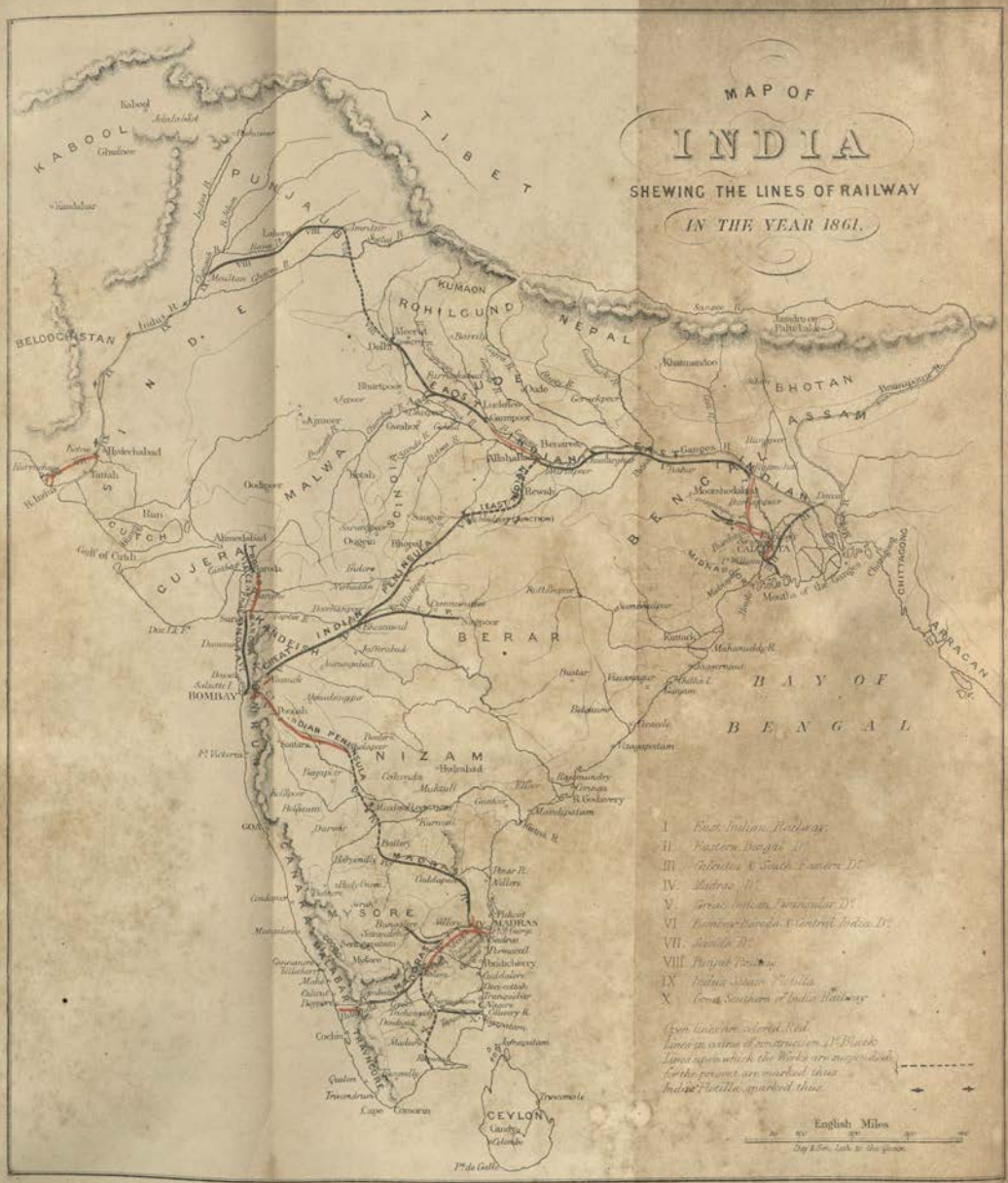
For Her Majesty's Stationery Office.


MAP OF
INDIA
SHEWING THE LINES OF RAILWAY
IN THE YEAR 1861.
KABOOL
TIBET
PUNJAUB
BELOOCHISTAN
SINDE
KUMAON
ROHILCUND
NEPAL
BHOTAN
ASSAM
BENGAL
MALWA
SCINDIA
GUJERAT
CUTCH
BERAR
NIZAM
MYSORE
CEYLON
BAY OF BENGAL
ARRACAN
CHITTAGONG
BOMBAY
CALCUTTA
MADRAS
Kabool
Jalalabad
Ghuznee
Kandahar
Lahore
Meeruth
Delhi
Bhurtpoor
Ajmeer
Oodipoor
Hyderabad
Tattah
Ran
Gulf of Cutch
Ahmedabad
Baroda
Surat
Bhopal
Saugur
Rewah
Allahabad
Benares
Lucknow
Cawnpoor
Oude
Gorakpoor
Khatmandoo
Jamdoo or Pattelabad
Moorshedabad
Mouths of the Ganges
Kuttack
Mahanuddy R.
Vizianagar
Vizagapatam
Ganjam
Bustar
Bajapoor
Hoolgaon
Kurnool
Bellary
Cuddapah
Nellore
Madras
Bangalore
Mysore
Cochin
Cape Comorin
Trivandrum
Trincomale
Cape Colombo
Pt. de Galle
Indus R.
Sangee R.
Ganges R.
Beemapore R.
Chittagong
Mandipatam
Kistna R.
Godavery
Ft. Victoria
Salsette I.
Bombay
Poonah
Satara
Bajapoor
Colconda
Hoolgaon
Kurnool
Bellary
Cuddapah
Nellore
Madras
Bangalore
Mysore
Cochin
Cape Comorin
Trivandrum
Trincomale
Cape Colombo
Pt. de Galle
I. East Indian Railway.
II. Eastern Bengal D°.
III. Calcutta & South Eastern D°.
IV. Madras D°.
V. Great Indian Peninsular D°.
VI. Bombay Baroda & Central India D°.
VII. Sindh D°.
VIII. Punjab Railway.
IX. Indus Steam Flotilla.
X. Great Southern of India Railway.
Open lines are colored Red.
Lines in course of construction D° Black.
Lines upon which the Works are suspended for the present are marked thus.
Indus Flotilla marked thus.
English Miles

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1860-61.

BY JULAND DANVERS, ESQ.,

SECRETARY, RAILWAY DEPARTMENT, INDIA OFFICE.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
FOR HER MAJESTY'S STATIONERY OFFICE.

1861.

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REPORT.

To the Right Honourable Sir CHARLES WOOD, Bart., G.C.B., M.P., Secretary of State for India.

Railway and Telegraph Department, India Office,
1st May 1861.

SIR,

I HAVE the honor to lay before you the following Report on the proceedings that have taken place with respect to Railways in India during the year 1860.

Progress of works.

2. On the 1st January 1860, 634 miles were open for traffic. That length had, at the end of the year, been increased to 842 miles, by the completion of the under-mentioned sections :—

Name of Company.	From.	To.	When opened.	No. of Miles.
East Indian	Cynthea	Rajmahal	October 1860	84
Madras	Gorriattum	Amboor	January „	17
	Amboor	Vaniembaddy	February „	10
	Vaniembaddy	Tripatoor	„ „	14
Great Indian Peninsula	Barsee Road	Mohul	January „	28½
	Wassind	Shapoor	February „	4
	Mohul	Sholapore	June „	21½
Bombay, Baroda, and Central India	Amrolee	Unkleser	February „	29
				208

Of the above 842 miles, one hundred are constructed with double, and 742 miles with single, lines of rail.

3. This addition to the number of miles completed does not, however, present a correct measure of the progress which has been made generally. Works which at the beginning of the year had not been commenced, or which had been partially executed, have been vigorously prosecuted, and the result will be shown in the course of the present year by a considerable increase to the length of opened line.* Still it was expected that more would have been completed, and the delay, especially in the case of the Great Indian Peninsula line, is in great measure due to the prevalence of sickness in certain districts where works were going on. Several Europeans holding high and responsible positions in connexion with the undertaking were struck down by disease, and the native workmen dispersed and fled.

4. The most important section which has been finished during the past year is that on the East Indian Railway, between Cynthea and Rajmahal. By its means, Calcutta is connected with the Ganges, and the navigation of 250 miles of one of the most difficult and dangerous portions of the river may be avoided by those trading between the upper districts of Bengal and the sea coast. While, however, the

* Since the 1st January 1861, about 211 miles additional have already been opened, viz. :—

Great Indian Peninsula Railway,—	
Shapore to Kussarah (foot of Thul Ghat)	22 miles.
Egutpoora (summit of Thul Ghat) to Nassick	32 „
Madras Railway,—	
Tripatoor to Salem	70 „
Beypore to Tiroor	19 „
Arconum Junction to Naggery (N.E. or Belary line)	17 „
Bombay and Baroda Railway,—	
Surat, north, to Amrolee and from Unkleser to Baroda (with the exception of the bridge over the Nerbudda)	52 „
Surat, south, to Sucheen	9 „
	211 „

Making altogether 1,063 miles now open for traffic.

opportunity of saving time and avoiding danger is thus afforded, the sudden and immediate transfer of the traffic from the river to the railway must not be expected, especially so long as there is a break in the through journey, and the process of unloading and reloading is necessary at the point where the river and railway join.

Oude Railway Company.

5. No new lines have been sanctioned during the year, and no fresh Company has been formed for the purpose of constructing railways in India. On the other hand, one undertaking, if not abandoned, has been postponed, and the operations of the Company entirely suspended. I allude to the Oude Railway Company, which, after executing surveys, with the approval of Government, has received back the amount expended by them, viz., 12,166*l.* 0*s.* 5*d.*, with interest. The plans and drawings have been deposited with the Government in India, and will be available when a more favourable time than the present arrives for introducing railways into that province.

6. The termination thus put to the proceedings of this Company was in pursuance of the decision of the Secretary of State in Council not to guarantee the capital for any new railway undertaking, and, (in view to the vigorous prosecution of the works in course of construction,) to confine the support and assistance of Government to the Companies with whom contracts had already been made.

Postponement of works.

7. It has also been arranged, in consequence of the difficulty which some Companies have experienced in raising the funds necessary to meet their expenditure, to postpone, for a time, the works on certain sections which, although sanctioned as part of the comprehensive scheme of trunk lines for India, had not been commenced. These are the lines from—

Allahabad to Jubbulpore -	227 miles	in the East Indian Railway Company's scheme.
Delhi to Lahore -	- 240 „	in the Punjab Company's scheme.
Sholapore to Bellary	- 183 „	partly in the Great Indian Peninsula, and partly in the Madras, Companies' schemes.

Measures for constructing the extensions of the Great Southern of India and the Eastern Bengal Railways will also be suspended for the same reason. All these works will, however, probably be proceeded with as others are completed. But, by preventing the construction of the whole at once, the immediate demand for capital is proportionately reduced.

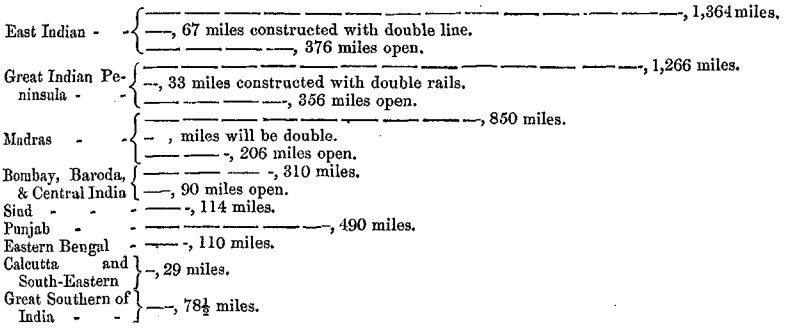
Length of line under construction.

8. The extent of line now in course of execution is 2,932½ miles, of which 1,353½ miles will probably be opened during the present year. In 1862 almost all the rest will, it is expected, be finished, including the great trunk line from Calcutta to Delhi.

Railway.	In course of Execution.	Expected to be opened		
		In 1861.	In 1862.	Subsequent Years.
	Miles.	Miles.	Miles.	Miles.
By the East Indian - - - -	761	421	320	247*
„ Great Indian Peninsula - - -	787	200	327	383*
„ Madras - - - -	548	250	146	212*
„ Bombay and Baroda - - -	219	184	35	—
„ Scinde - - - -	114	114†	—	—
„ Punjab - - - -	250	41	209	240*
„ Eastern Bengal - - -	110	—	110	—
„ Calcutta and South-Eastern - -	29	29	—	—
„ Great Southern of India - -	78½	78½	—	—
Total - - -	2,896½	1,317½	1,147	1,082*

* Including the lines which, as stated in paragraph 7, are at present suspended.
† It is believed that this line is now open.

9. The following diagram exhibits the comparative length of each line undertaken by the respective Companies, the length opened up to the present date, and the length of double line which has been constructed. Comparison of the undertakings of each Company.



10. Some very formidable works have yet to be finished, which necessarily involve risk of delay. The important character of some of these on the East Indian Railway may be understood by the description of them, given after a personal inspection, by Lord Canning, in the Despatch which will be found in the Appendix. In the same letter, it will be observed that the Governor General pays a just tribute to the energy and skill of the engineers engaged on the line. Important works on the East Indian Railway.

11. On the Great Indian Peninsula Railway also, the stupendous works on the *Bhore and Thul Ghat inclines present extraordinary difficulties. The bridging of the Nerbudda and Myhee rivers by the Bombay, Baroda, and Central India Railway, are likewise operations of great magnitude.† Important works on the Great Indian Peninsula and Bombay and Baroda lines.

* An interesting account of these works, by the Chief Engineer to the Railway Company in Bombay, Mr. Berkeley, will be found in the Appendix.

† The Taptee Bridge, of 30 spans, about 2,000 feet long, on an alluvial bed, was constructed during the short period of twelve months.

12. As the lines approach completion, the amount of materials sent from this country will diminish; but during the past year 234,710 tons were despatched, their value being 2,140,703*l.* This is the largest consignment of material in any year since the commencement of operations. The proportions in which this quantity was distributed amongst the several undertakings will be seen by the following statement:— Materials sent from England.

Railway Company.	Number of Tons of Materials.				Value of Materials.		
	Tons.	cwt.	qrs.	lbs.	£	s.	d.
East Indian	56,448	0	0	0	580,387	0	0
Madras	38,348	0	0	0	296,842	0	0
Great Indian Peninsula	25,971	0	0	0	236,364	12	0
Bombay, Baroda, and Central India	32,980	11	0	21	335,667	12	3
Scinde	2,055	16	2	16	26,582	6	3
Punjaub	24,106	11	1	27	241,210	11	5
Indus Steam Flotilla	1,240	9	2	19	17,215	0	2
Great Southern of India	17,139	8	0	0	218,573	16	1
Calcutta and South-Eastern	6,088	0	0	0	74,174	4	4
Eastern Bengal	30,333	0	0	0	213,686	0	0
Total	234,710	16	3	27	2,140,703	2	6

13. The returns received from India show that the number of persons employed on the open sections of railway on the 1st October last was 18,789, consisting Number of persons employed on the lines open for traffic.

of 1,137 Europeans and 17,532 natives, but the large number put down in the Engineering Department in the return from the North-West Provinces would indicate that some mistake has occurred in making out the list, by adding to it men employed on the construction of the works.

STATEMENT showing the NUMBER of EUROPEANS and others employed on each opened Railway in India, on the 1st October 1860.

Name of Company.	Secretary's Department.			Locomotive Department.			Engineers' Department.			Traffic Department.			General Store Department.			Total Number employed.	Total Natives.	Total Europeans.	Number of Miles open.
	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.				
East Indian (Bengal Division)	8	19	27	65	641	706	144	475	619	26	328	354	38	1,974	2,012	3,718	3,437	281	186½
Do. (North-West Provinces	15	98	113	72	690	762	30	4,885	4,915	55	296	351	8	483	491	6,632	6,452	180	126
Total - -	23	117	140	137	1,331	1,468	174	5,360	5,534	81	624	705	46	2,457	2,503	10,450	9,889	461	292½
Madras - - - -	36	160	196	206	1,295	1,501	20	820	840	40	666	706	17	84	101	3,353	3,034	319	137
Great Indian Peninsula -	9	74	83	116	1,487	1,602	108	203	311	84	1,239	1,323	11	290	301	3,620	3,293	327	297½
Bombay, Baroda, and Central India - - - -	2	1	3	6	19	25	8	1,259	1,267	13	57	70	1	–	1	1,366	1,336	30	29
Total - -	70	352	422	464	4,132	4,596	310	7,651	7,961	218	2,686	2,804	75	2,831	2,906	18,789	17,552	1,137	686

Employment of Natives.

14. It will be observed with satisfaction, that the employment of natives is becoming very general, and that some of the positions hitherto occupied by Europeans, such as Station-masters, are filled by them. The pay for these varies from 5*l.* to 15*l.* per month. Guards receive from 7*l.* 10*s.* to 15*l.* a month, according to their length of service and merits. Engine-drivers, who are generally sent from England, receive from 16*l.* to 20*l.* per month; those trained in India are paid from 12*l.* to 15*l.* per month. The rate of pay for skilled native labour, such as masons, carpenters, blacksmiths, &c., varies from 10*d.* to 1*s.* a day; ordinary labour from 2½*d.* to 4*d.* per day. Zealous efforts have been made in some quarters to instruct and qualify natives for employment in various capacities, and the results have been very successful. The letter from Mr. Wright, the Locomotive Superintendent on the Madras Railway, appended to this Report, contains interesting particulars on this important subject.

Proposals to connect existing lines with foreign possessions.

15. In addition to the undertakings above mentioned, schemes have been brought forward for introducing a line of railway into the Guicowar's territory, in connexion with the Bombay and Baroda Railway, and for bringing the French town of Karricall, on the coast of Madras, into railway communication with the Great Southern of India Railway. In regard to the former, the Government of Bombay was authorized to assist the Guicowar in carrying out his design, by giving him the benefit of the experience in railway matters which that Government has gained; interfering only with the construction so as to secure an uniform gauge, and providing for the conveyance of troops and mails when necessary. With regard to the other scheme, the Chairman of the Great Southern of India Railway Company was informed that "Her Majesty's Government will "be happy to facilitate the promotion by the French Government of a line of "railway from their port of Karricall to some point on the Great Southern line "to be determined on by the local authorities, and would grant to the Company "formed for the purpose a lease of such portion of the land for the railway "and works as would be within the British territory, upon its being shown that "the requisite amount of capital was subscribed." In neither case has anything definite been settled.

Roads as feeders to railways.

16. The importance of constructing roads to serve as feeders to the railways has been fully recognized by the Home Government, and the question is now engaging the attention of the local authorities. A Despatch to the Government of India on this subject is appended. The Madras Government has recently reported that its sanction has been given to the construction of forty-three roads, of an aggregate length of 1,083 miles, designed to act as feeders to the Madras Railway.

17. The usual rate of speed for passenger trains is from 20 to 23 miles an hour. All the traffic operations during the year seem to have been conducted with regularity and order. Speed of trains.

18. The following table shows the annual expenses incurred by each Company in England on account of Direction and Home Establishment, the average amount of which will be found to be about 3,600*l.* :— Home expenses.

Name of Company.	Direction and Audit.	Establishment Charges.	Allowance for the office of Consulting Engineer.	Total.
	£	£	£	£
East Indian - - - -	1,691	4,859	1,250	7,800
Great Indian Peninsula - - -	1,321	2,679	750	4,750
Madras - - - - -	900	3,100	600	4,600
Bombay, Baroda, and Central India - -	1,060	2,555	1,500	5,115
Sind Railway: Sind* - - - -	260	1,540	400	2,200
Sind Railway: Punjab* - - - -	260	1,540	400	2,200
Sind Railway: Indus Steam Flotilla* - -	130	670	200	1,000
Eastern Bengal - - - -	810	1,840	600	3,250
Great Southern of India - - -	800	1,700	500	3,000
Calcutta and South-Eastern - - -	542	1,158	409	2,100

* The same Board and establishment conduct the business of the three concerns.

It will be observed by referring to the last report that there have been slight reductions in some cases, making a difference of 500*l.* in the aggregate, as compared with last year.

Financial Position of the Railway Companies.

19. When my Report of last year was written, it had been estimated that a sum of 52,430,000*l.* would be required to complete all the lines which had been sanctioned. Fresh estimates have since been made, by which it will be seen that from fifty-five to fifty-six millions sterling will probably be required for this purpose. Of this sum, about seven millions represent the cost of the lines postponed, viz.—

The Allahabad and Jubbulpore line from 2,250,000*l.* to 2,750,000*l.*
The Delhi and Lahore line about 2,500,000*l.*
The line from Sholapore to Bellary from 2,000,000*l.* to 2,250,000*l.*

20. On the 31st December 1859, 27,079,712*l.* had been raised by the several Companies. During the year 1860, a further sum of 5,618,789*l.* has been raised, making a total of 32,845,747*l.* The total expenditure up to the end of that year amounted to 31,171,353*l.*

21. At the end of the *official* year, viz., on the 30th April 1861, 34,396,445*l.* had been raised by the Railway Companies, and it is estimated that 34,042,128*l.* had been expended.

22. The following statement shows the amount raised and expended during the official year 1860–61, with the balances at the beginning and the end of the year, and the amount which it was anticipated would have been raised during the year. It will be observed that, while it was estimated that the Companies would have a balance to their credit to the amount of about 2,000,000*l.* on the 30th April last, the net balance was but 354,317*l.* Advances to the extent of about 682,000*l.* have also been made by Government to certain Companies beyond the amounts raised by them.

STATEMENT.

Name of Company.	Amount standing to the Credit of the Company on 30th April 1860.	Amount raised between 1st May 1860 and 30th April 1861.	Amount expended by Railway Companies.				Total.	Amount which it was estimated at the beginning of the year would stand to the Credit of the Companies on 30th April 1861.	Net Amount now standing to Credit of Companies, 30th April 1861 (partly estimated).	Differences between the two previous columns.
			In England, between 1st May 1860 and 30th April 1861.	In India.						
				Date.	Amount.	Estimated Expenditure between the before-mentioned date and 30th April 1861.				
	£	£	£		£			£	£	£
East Indian - - - -	682,130	2,361,456	636,101	28th Feb. 1861	1,816,354	Calculated upon the Statement of the Government of India that 5,865,000*l.* would be spent in India during the year,—1,735,128*l.*	8,290,478	586,972	354,317	1,624,082
Great Indian Peninsula - -	663,035	1,139,328	340,997	„	822,002			275,776		
Madras - - - -	295,195	418,075	334,590	„	502,731			501,978		
Bombay, Baroda, and Central India	77,829	343,198	344,991	„	360,843			49,867		
Scinde - - - -	10,412	219,900	33,918	„	254,891			256,307		
Punjab - - - -	235,844	791,760	298,230	31st Jan. 1861	66,730			170		
Indus Flotilla - - -	70,340	3,750	26,085	28th Feb. 1861	29,525			107,079		
Eastern Bengal - - -	154,984	370,302	238,432	„	129,112			170,393		
Great Southern of India - -	5,877	291,200	129,867	„	92,059			20,091		
Calcutta and South-Eastern -	16,760	103,005	42,267	„	55,625			9,766		
	2,212,406	5,841,974	2,425,478	—	4,129,872	1,735,128	8,290,478	1,978,399	354,317	1,624,082

23. If the estimate of the Government of India, that more than 6,000,000*l.* will be spent *in India* during the current year is correct, a sum of at least 8,000,000*l.* will have to be raised to meet the whole expenditure of the year, ending 30th April 1862. The following statement shows the proportion in which this sum will be divided amongst the Companies, also how much will be expended in England, and how much in India.

STATEMENT showing the Estimated Expenditure on Railways during the Year 1861–62, in England and in India.

Railway Company.	Amounts which it is estimated in India will be advanced by Government.		Amount required for England.	Total.	Balances partly estimated on the 30th April 1861.		Amount which can be raised by Calls.	Amount to be raised by Debentures or Shares, or, failing these means, to be advanced by Government.
	In rupees.	Amounts debited to the Railway Companies in Pounds sterling.			To the Credit of the Companies.	To the Debit of the Companies.		
	Rs.	£	£	£	£	£	£	£
East Indian :—								
Bengal portion - -	2,00,00,000	1,833,333	414,650	3,055,841	225,000	—	36,000	2,794,841
North-West Provinces -	88,13,000	807,858						
Madras - - - -	76,26,000	699,050	410,743	1,109,793	—	250,000	Nil.	1,359,793
Great Indian Peninsula :—								
Bombay to Sholapore, and Bombay to Bhosawul -	99,00,000	907,500						
Bhosawul to Oomrawutee	15,00,000	137,500						
Oomrawutee to Nagpoor	10,00,000	91,666	407,000	1,662,832	369,000	—	800,000	483,832
Bhosawul to Hurda -	10,00,000	91,666						
Hurda to Jubbulpoor -	2,00,000	18,333						
Scinde - - - -	19,50,000	178,750	38,200	211,950	—	48,000	Nil.	259,950
Indus Flotilla - - -	7,00,000	64,166	26,000	90,583	8,500	—	Nil.	82,083
Punjaub - - - -	24,05,212	220,477	121,200	341,677	350,000	—	350,000	Nil.
Bombay, Baroda, and Central India - - -	54,00,000	495,000	100,000	595,000	—	364,000	25,700	933,300
Eastern Bengal - -	44,00,000	403,333	168,316	571,649	72,000	—	124,000	357,649
Calcutta and South-Eastern	10,00,000	91,666	28,800	124,633	—	20,000	Nil.	144,633
Great Southern of India -	12,85,000	117,791	23,267	141,058	4,000	—	25,000	112,058
Total - Rs.	6,71,79,212	6,158,089	1,738,176	7,905,016	1,028,500	682,000	1,360,700	6,546,139*
Or £	6,717,921							

* This does not allow for any Balance at the end of the year for carrying on lines in progress; nor does it include a sum of 559,832*l.*, which represents the excess amount to be advanced by Government in consequence of the difference in the rate of exchange.

24. The railway expenditure now occupies a very prominent place in the financial position of the country, the more so as some of the Companies depend upon the Government for advances when necessary. The Government have already in several cases provided funds, and it may be apprehended that, until an improvement takes place in the state of the money market, the system thus commenced will have to be continued.

25. The money spent on Indian railways may therefore be placed under three divisions :—

1st. Share or Stock Capital.
2d. Debentures.
3d. Advances by Government.

26. The first consists of capital raised by means of shares, and subsequently converted into stock, the holders being parties to the contracts with the Government, under which a certain rate of interest is guaranteed upon certain conditions, the nature of which conditions was fully explained in the last Report.

27. The second consists of sums borrowed for certain periods, the repayment of the same and the interest thereon being guaranteed by the Government of India. These again are divided into two classes, viz., debentures which may be converted into an equivalent amount of guaranteed share capital at the option of the holders, and those which are not convertible, but which must either be paid off or renewed as they expire. They vary also in the mode of transfer, some being registered, and others being transferable from hand to hand. Although in the shape of a loan, the sums raised by means of debentures do not provide for a temporary want, but are absolutely sunk in the undertaking, and are to all intents and purposes so much capital. The following statement shows when the several amounts raised by debentures become payable or renewable, and how much may be converted into stock at the option of the holders:—.

Railway Company.	Amount authorized to be raised on Debentures.	Conditions.	Date when Payment is due.
	£		
East Indian	1,000,000	Convertible into Stock at the option of the holder.	10th March 1864.
	1,600,000	Ditto.	October „
	1,500,000	Renewable for five years at the option of the holder, but not convertible.	10th August 1865.
	1,500,000	Five years from date of issue, renewable, &c.	Say in January 1866.
	1,000,000	Convertible into Stock at the option of holder.	April 1866 or 1871.
Madras	1,000,000	Ditto.	July 1864.
	1,000,000	Inconvertible.	January 1865 or 1867.
Great Indian Peninsula	333,300	Ditto.	January „ „
	500,000	Ditto.	March „ „
Bombay, Baroda, and Central India	300,000	Convertible into Stock at option of holder.	July 1864.
	250,000	Ditto.	March 1865.
Sind	250,000	Ditto.	„ „
	83,000	Ditto.	August 1865.
Indus Flotilla	83,000	Ditto.	1st July 1865.
Great Southern of India	90,000	Ditto.	1866 or 1868.
Eastern Bengal	400,000	Conditions undetermined.	Undetermined.
Calcutta and South-Eastern	50,000	Convertible into Stock at option of holder.	1866.
	10,939,300		
Deduct, as having been converted into Shares	182,540		
	10,756,760		

28. The last description consists of sums advanced by the Government to those Companies which have been unable to raise sufficient funds to meet the expenditure on lines which have been commenced. The Companies to whom such advances are made are charged with interest at the rate of five per cent., and the Government will have a direct interest in the undertaking in proportion to the amount of their advances.

29. Of the 34,396,445*l.* which had been raised to the 30th April last, 27,560,675*l.* consists of shares or stock, and 6,835,770*l.* of debentures.

30. The total amount of capital which it is expected will be required for each undertaking, the amount which had received the Government guarantee on the 30th April 1861, the amount raised by each Company, the proportion of stock and debenture capital, and the amounts expended, are shown in the following statement:—

Statement.

Railway Company.	Amount estimated to be required for each Undertaking.	Amount authorized to be raised with the Government Guarantee.			Amount raised in England to 30th April 1861.		Amount raised In India to Date of latest Advices.	Total raised 30th April 1861.	Total Amount advanced to Companies for Expenditure to the 30th April 1861 (partly estimated).
		By Share Capital.	By Debentures.	Total.	By Shares.	By Debentures.			
East Indian:	£	£	£	£	£	£	£	£	£
Main Line	20,750,000	14,332,540	6,417,460	20,750,000	9,213,025	4,651,970	237,426	14,102,421	15,835,867
Jubbulpore Line	2,250,000	2,000,000	-	2,000,000	1,951,910	-	7,490	1,959,400	
Madras:									
Main Line	8,500,000	3,000,000	2,000,000	5,000,000	2,983,362	842,900	-	3,826,262	5,044,128
Bellary		1,000,000	-	1,000,000	962,475	-	-	962,475	
Great Indian Peninsula	12,000,000	8,000,000	833,300	8,833,300	6,232,485	511,200	349,856	7,093,541	6,724,603
Sind	1,400,000	1,000,000	333,000	1,333,000	975,535	333,000	23,409	1,331,944	1,379,862
Punjab:									
Moultan to Umritser	2,250,000	1,500,000	-	1,500,000	1,157,319	-	5,736	1,163,055	812,481
Delhi to Lahore	2,500,000	—	—	—	—	—	—	—	—
Indus Flotilla	300,000	250,000	83,000	333,000	249,755	3,500	-	253,255	244,762
Bombay, Baroda, and Central India	3,500,000	2,450,000	550,000	3,000,000	1,709,469	432,400	21,251	2,163,120	2,527,035
Eastern Bengal	1,400,000	1,000,000	400,000	1,400,000	809,853	1,300	7,146	818,299	744,564
Calcutta and South-Eastern	280,000	250,000	50,000	300,000	233,035	-	16,418	249,453	259,569
Great Southern of India	550,000	410,000	90,000	500,000	412,500	59,500	1,220	473,220	463,257
Total	55,680,000	35,192,540	10,756,760	45,949,300	26,890,723	6,835,770	669,952	34,396,445	34,042,128

Powers of the several Companies to raise money.

31. The powers of each Company to raise money are explained in the following table :—

Railway Company.	Share Capital.	Borrowing Powers.	Total.
East Indian - -	20,000,000*l.*	To the extent of the unsubscribed Capital, by means of Debentures convertible into Shares at the option of the Holders; also 3,000,000*l.* by means of inconvertible Debentures.	23,000,000*l.*
Madras - - -	To the extent that may be agreed upon between the Railway Company and the Government of India.	By Debentures convertible into Shares, to the extent of the unsubscribed Capital, at interest not exceeding five per cent.; by inconvertible Debentures to the extent of one third of the paid-up Capital.	The amount agreed upon by Government and the Railway Company.
Great Indian Peninsula -	Ditto.	To the extent of one third of the subscribed Capital, one half thereof being paid up.	Ditto.
Sind - - -	Ditto.	Ditto.	Ditto.
Punjab - - -	Ditto.	Ditto.	Ditto.
Indus Flotilla - - -	Ditto.	Ditto.	Ditto.
Bombay, Baroda, and Central India.	Ditto.	Ditto at a rate of interest not exceeding five per cent.	Ditto.
Great Southern of India -	2,000,000*l.*, or such portion of this sum as may not be borrowed.	To the extent of the amount of any Capital not subscribed for, either by the issue of mortgage bonds or by the creation of *Debenture Stock*; the whole Capital and Loans not to exceed 2,000,000*l.*	2,000,000*l.*
Calcutta and South-Eastern.	To such extent as may be agreed upon between the Government and the Company.	May borrow money for the objects of the undertaking. (No limit placed upon this power.)	The amount agreed upon by Government and the Railway Company.
Eastern Bengal - -	6,000,000*l.*	May borrow on Debentures to the extent of one third of the subscribed Capital, one half thereof being paid up.	8,000,000*l.*

Note.—For the amounts estimated to be required, see previous Statement.

Estimated future expenditure.

32. Taking the estimate of 55,680,000*l.* as the sum requisite for the completion of the railways which have been sanctioned, but which, it should be observed, is pronounced by some of the Companies to be excessive, about 14,000,000*l.* remains, exclusive of the 7,000,000*l.* or 8,000,000*l.* required ultimately for suspended works, to be raised for the lines in course of execution. The expenditure of this sum will be spread over this and the next three or four years; and, looking to the progress made in some lines, and to the expected completion of a considerable addition within the next twelve months, it will probably be distributed as follows :—

		England.	India.
In 1861–62 - -	£8,000,000	£2,000,000	£6,000,000
„ 1862–63 - -	4,000,000	750,000	3,250,000
„ 1863–64 - -	1,500,000	300,000	1,200,000
„ 1864–65 - -	500,000	100,000	400,000

33. But before the arrival of the year 1864, it will have to be considered whether the postponed works, as well as the extensions of the Great Southern and the Eastern Bengal Railways should not be commenced. If this question is decided in the affirmative, the expenditure would be raised to, and maintained at, from two and a half to three millions a year for that and the three following years.

34. The following statement shows the amount of guaranteed Interest paid to the Railway Companies to the 31st December last, subject to the

addition of a small amount paid in India, of which advices have not yet been received.

Guaranteed Interest paid to the several Companies.

	Interest paid to 31st December 1859, England and India.	Interest paid in 1860.			Total Amount of Interest paid to 31st December 1860.
		England.	India.	Total.	
	£	£	£	£	£
East Indian	2,069,189	666,870	—	666,870	2,736,059
Eastern Bengal	29,841	25,703	—	25,703	55,544
Calcutta and South-Eastern	5,320	8,722	—	8,722	14,042
Madras	563,116	214,976	—	214,976	778,092
Great Southern of India	5,466	13,703	—	13,703	19,169
Great Indian Peninsula	909,471	289,747	8,610	298,357	1,207,828
Bombay, Baroda, and Central India	137,970	93,966	476	94,442	232,412
Scinde	105,450	53,469	501	53,970	159,420
Punjab	40,223	33,180	—	33,180	73,403
Indus Steam Flotilla	11,171	12,569	—	12,569	23,740
	3,877,217	1,412,905	9,587	1,422,492	5,299,709

35. Thus, the sums which have been paid by the Government of India on account of the guarantee now amount to 5,299,709*l.* This charge against the Companies had, however, been reduced on the 30th June last by 880,331*l.*, the amount of the net profits up to that date. The annual amount due from the Government, on account of the guarantee, was, at the commencement of the present year, about 1,450,000*l.* By the 31st December next, this sum will probably be increased by from 350,000*l.* to 400,000*l.* The annual charge will, it is hoped, cease when the railways are in working order, and the large arrears will, it is further hoped, be ultimately repaid out of half the excess profits beyond 5 per cent.

Revenue.

36. The annual earnings of the railways, on 30th June 1860, amounted to about 318,310*l.* Those for the year ending 30th June next, may probably amount to 400,000*l.*, which will be set off against the sum to be paid by Government for the guarantee.

Rate of exchange in operations between Government and the Railway Companies.

37. It was explained in the former Report (paragraph 118) that the railway capital is principally raised in this country, and paid into the Government treasury in London, and that the sums required for the expenditure in India are advanced by the Government from the local treasuries. When the contracts between the Government and the Railway Companies were executed, it was considered desirable to fix the rate of exchange at which these advances should be made. The first contract was entered into in 1849, when silver was cheaper than it is now, and when the prevailing rate of exchange was more in favour of this country. That fixed upon was 1*s.* 10*d.*, and by this rate all the transactions between the Government and the Railway Companies are regulated. The rate of exchange has now risen to 2*s.* or upwards; the consequence is that for every 100*l.* which the Railway Companies pay into the Government treasury in this country for expenditure in India the Government advances, in rupees, an amount the equivalent of which at 2*s.* is about 109*l.* The repayment of the advances made by Government on account of the guaranteed interest is subject to the same arrangement. The profits of the railways as they accrue are, under the contracts, paid into the Government treasuries in India, and although the exchangeable current value of the rupee may be 2*s.*, they are converted into sterling at 1*s.* 10*d.*, the Government being entitled to retain the difference. The extra amount which the Government are now advancing will, accordingly, be gradually recovered, should the present

rate of exchange continue or increase (either of which is probable), and should the railways work at a profit. For instance, the Government this year will probably advance Rs. 6,00,00,000 to the Railway Companies in India, and the Railway Companies will only be debited with the sum of 5,500,000*l.* in this country, which is 500,000*l.* less than would have been charged against them had the transaction been regulated by the rate of 2*s.* On the other hand, the Government, it is calculated, will receive into the treasuries in India a sum of Rs. 40,00,000 on account of the net profits of the railways, but a sum of 366,666*l.* only will be credited to the Companies in reduction of their debt to the Government for the guaranteed interest. This process will go on for some time. The advances on account of capital will of course cease when the lines are completed. The Government will continue to receive all the profits of the railways in rupees, and, after converting them into pounds sterling at the fixed rate of 1*s.* 10*d.*, will in the first instance apply the amount so produced to the payment of the guaranteed interest. If the profits should amount to more than 5 per cent., half the excess will be applied to the repayment of the sums advanced for guaranteed interest in former years, and half paid to the shareholders in addition to the 5 per cent. It is difficult to estimate which will have profited most by the arrangement, when the accounts between the Companies and the Government are closed; but the probability is, supposing the existing rate to continue, and the lines to be profitable, that the profit and loss of each will ultimately be nearly balanced.

Number of Proprietors of Railway Stock.

38. The following statement shows the number of proprietors of Indian railway stock or shares in this country and in India on the 31st December last, and distinguishes the Native from the European proprietors, as well as those who hold shares or stock of the value of 1,000*l.* and upwards:—

Railway Company.	Number of Proprietors holding Shares of the value of 1,000*l.* and upwards.	Number of Proprietors holding Shares of less than 1,000*l.* value.	Total Number of Proprietors.	Number of Proprietors registered in India.	Number of Native Proprietors registered in India.
East Indian	2,800	3,594	6,394	232	75
Madras	1,033	1,229	2,262	No register is kept at Madras, but there are 10 natives of India holding Stock.	
Great Indian Peninsula	1,788	2,595	4,383	248	152
Scinde	347	359	706	20	5
Punjab	420	381	801	19	3
Indus Flotilla	97	205	302	None.	None.
Bombay, Baroda, and Central India	430	769	1,199	The number of Proprietors in India is not as yet known.	
Eastern Bengal	238	270	508	38	23
Great Southern of India	108	100	208	23	12
Calcutta and South-Eastern	67	288	355*	99*	56*
Total	7,328	9,790	17,118	679	336

* Up to latest advices.

39. Last year the number of shareholders was 15,224, so that there has been an increase of one thousand eight hundred and ninety-four, 538 among the larger, and 1,356 among the smaller, proprietors. The share capital, in the same period, had increased from 22,920,000*l.* to 25,887,057*l.*

TRAFFIC OPERATIONS.

East Indian Railway.

Traffic Operations.

East Indian Railway.

40. At the commencement of the period under notice, viz. from July 1859 to June 1860, 142 miles of the Bengal portion were open, and early in September 1859 twenty-four more were added, making a total length of 166 miles, which were open for traffic during nine months of the year.

41. The subjoined statements show that, in almost every particular, the results of the year's traffic bear a favourable comparison with the previous corresponding

period. The number of passengers has increased by above a quarter of a million. and the gross receipts by 46,680*l.*; and the net profits are 133,251*l.*, against 96,651*l.* for the previous year. The working expenses have increased by 10,000*l.*, and the net mileage receipts have not reached the same amount as last year, but this is accounted for by the additional length of line which has been opened.

Statement No. I.

Comparative Statement showing the Number of Passengers conveyed during the Years ending 30th June 1859 and 30th June 1860.

Bengal Division.

Year.	Number of Miles open to which the Traffic applies.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Half-year ending 31st Dec. 1859 -	166*	8,313	35,371	673,877	717,561
„ 30th June 1860 -	166	9,021	34,322	766,863	810,206
Total, year ending 30th June 1860 -	166	17,334	69,693	1,440,740	1,527,567
„ „ 1859 -	166	15,106	57,309	1,199,517	1,271,932
Increase of year ending 30th June 1860 over year ending 30th June 1859 - - -	—	2,228	12,384	241,233	255,635

* 142 miles first two months.

North-West Provinces Division.

Year.	Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Half-year ending 31st Dec. 1859 -	123	1,508	3,596	84,546	89,650
„ 30th June 1860 -	123	1,471	3,837	111,798	117,106
Total year ending 30th June 1860 -	123	2,979	7,433	196,344	206,756

Statement No. II.

Comparative Statement showing the Amount of Receipts from Passengers and Goods, the Working Expenses, and the Net Profits, during the Years ending 30th June 1859 and 30th June 1860.

Bengal Division.

Half-year ending	Receipts from conveyance of			Total Receipts.	Working Expenses.	Net Profits.
	Passengers.	Merchandise.	Railway Materials.			
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
31st December 1859 -	41,060 2 2	69,025 18 7	6,411 12 7	116,497 13 4	51,339 98 1	65,157 15 3
30th June 1860 -	48,749 15 8	64,308 13 8	9,960 4 2	123,018 13 6	54,925 7 5	68,093 6 1
Whole year ending 30th June 1860 -	89,809 17 10	133,334 12 3	16,371 16 9	239,516 6 10	106,265 5 6	133,251 1 4
Whole year ending 30th June 1859 -	73,947 0 0	92,517 15 2	21,525 4 10	192,836 0 0	96,184 3 1	96,651 16 11
Increase of year 1860 over year 1859 -	15,862 17 10	40,816 17 1	—	46,680 6 10	10,081 2 5	36,599 4 5
Decrease - -	—	—	5,153 8 1 less than in the year 1859.	—	—	—

STATEMENT II.—*continued.*

NORTH-WEST PROVINCES DIVISION.

Half-year ending	Receipts from conveyance of			Total Receipts.	Working Expenses.	Net Profits.
	Passengers.	Merchandise.	Railway Materials.			
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
31st December 1859 -	13,555 19 4	16,939 14 7	6,560 5 7	37,055 19 6	19,221 16 2	17,834 3 4
30th June 1860 -	15,281 1 7	24,601 10 9	2,355 2 11	42,237 15 3	24,149 10 6	21,088 4 9
Whole year ending 30th June 1860 -	28,837 0 11	41,541 5 4	8,915 8 6	79,293 14 9	40,371 6 8	38,922 8 1

STATEMENT No. III.

COMPARATIVE STATEMENT showing the total Number of Passengers conveyed per Mile during the Years 1858–59 and 1859–60; also the total Number conveyed in each Class.

BENGAL DIVISION.

Year ending	Total Number of Passengers conveyed per Mile.	Total Number conveyed per Mile.		
		1st Class.	2d Class.	3d Class.
30th June 1860	9,203·4	104·4	419·8	8,679·1
„ 1859	9,661	106·3	403·5	9,151·5

NORTH-WEST PROVINCES DIVISION.

Year ending	Total Number of Passengers conveyed per Mile.	Total Number conveyed per Mile.		
		1st Class.	2d Class.	3d Class.
30th June 1860	1,680·9	24·2	60·4	1,596·2

STATEMENT No. IV.

COMPARATIVE STATEMENT showing the proportion of Working Expenses to Gross Receipts, and the proportion per cent. of Receipts from Passengers and Goods.

BENGAL DIVISION.

Year ending	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
30th June 1860	44·36	37·4	62·5
„ 1859	45·04	35·9	64·0

NORTH-WEST PROVINCES DIVISION.

Year ending	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
30th June 1860	50·91	36·1	61·1
„ 1859*	—	—	—

* This portion of the Line was not opened at this period.

42. The following details regarding the distribution of the working expenses are taken from the Report of Captain Stanton, Deputy Consulting Engineer to the Government of Bengal:—

DISTRIBUTION of WORKING EXPENSES, East Indian Railway, Bengal Division, showing the relative Proportion of each Item of Charge, and the Ratio of each to the Gross Revenue, from June 1854 to June 1860.

Half-years ending	Maintenance of Way and Works.		Locomotive Expenses.		Coaching Expenses.		Merchandise Expenses.		General Charges.		Totals of Working Expenses.	Totals of Gross Receipts.	Train Mileage.	Gross Earnings per Train Mile.	Ratio of Working Expenses to Receipts.
	Per cent. of		Per cent. of		Per cent. of		Per cent. of		Per cent. of						
	Working Expenses.	Gross Revenue.	Working Expenses.	Gross Revenue.	Working Expenses.	Gross Revenue.	Working Expenses.	Gross Revenue.	Working Expenses.	Gross Revenue.					
											Rs.	Rs.	Rs.	Rs. an. p.	Per cent.
31st December 1854 -	11	6	48	30	17	10	0	0	24	15	58,005	93,280	—	—	62
30th June 1855 - -	12	9	48	32	22	15	0	0	18	12	1,69,143	2,49,342	51,260	4 14 0	68
31st December 1855 -	14	6	49	20	12	5	5	2	20	9	1,61,405	3,86,367	80,991	5 0 7	42
30th June 1856 - -	30	12	42	17	8	3	4	2	16	6	2,06,952	5,10,128	1,13,011	4 10 3	41
31st December 1856 -	28	12	42	17	9	4	5	2	16	7	2,18,944	5,38,241	1,10,724	4 15 10	41
30th June 1857 - -	27	10	44	16	8	3	5	2	16	6	2,63,241	7,01,953	1,61,094	4 10 10	37
31st December 1857 -	27	10	47	18	10	4	5	2	12	5	2,93,113	7,57,352	1,78,858	4 3 9	38
30th June 1858 - -	22	10	40	18	14	6	12	5	13	6	3,91,610	8,84,370	2,38,999	3 11 3	44
31st December 1858 -	22	10·9	38	19	13	7	15	8	13	7	4,70,693	9,39,549	2,42,158	3 14 1	51
30th June 1859 - -	21	9	40	18	8	4	12	5	13	6	5,89,799	13,14,440	2,92,658	4 7 10	45
31st December 1859 -	22·7	10·5	39·9	18	8	3·7	9·5	4·4	14	6·6	5,84,443	12,63,811	3,54,330	3 9 0	46
30th June 1860 - -	21·12	9·32	41·85	18·44	9·84	4·35	10·68	4·71	16·5	7·3	5,92,844	13,43,824	3,68,199	3 10 5	44

43. With regard to the North-West Provinces, as the year now given is the first for which returns have been made, it is only possible to draw a comparison between the two last half years, and the results of such a comparison are not unsatisfactory, although the amount of traffic is very small compared with that in Lower Bengal.

GREAT INDIAN PENINSULA RAILWAY.

44. At the commencement of the year beginning 1st July 1859, 245 miles were open, and at the end 296½ miles. The last 20 miles were finished, however, after the 1st June, so that the traffic only applies to 277½ miles—92 in the Concan, and 185 in the Deccan. The range of mountains which causes this division is still untraversed by the railroad, and so long as this is the case, the returns cannot present a criterion of what the traffic will be. The receipts per mile will, as a matter of course, show a falling off as additional lengths are open in districts remote from the Presidency, and more especially must this be the case when the continuity of the line is broken by a gap of several miles in the middle of its course.

45. The subjoined statements present satisfactory results in regard to the Concan line, but with respect to the section open in the Deccan the returns do not bear a favourable comparison with the previous half year.

46. A revision of the charges has since been made, and it is understood that an improvement has already taken place in consequence. The former high rates and other causes operated to prevent traffic from coming to the line in the Deccan, for notwithstanding the facilities of transit offered by the rail, the amount of goods on the old high road had not diminished.

Traffic Operations.

Great Indian Peninsula Railway.

Statement No. I.

Comparative Statement showing the Number of Passengers of each Class conveyed, during the Two Halves of the Year ending 30th June 1860, together with the Number of those conveyed during the Year ending 30th June 1859.

Half-year ending	Number of Miles open.	Number of Passengers.			Total. Number of Passengers.
		1st Class.	2d Class.	3d Class.	
31st December 1859 - -	245 } 297	5,585	78,254	519,117	602,956
30th June 1860 - - -	52 }	5,548	88,486	597,830	691,864
Whole year ending 30th June 1860	297	11,133	166,740	1,116,947	1,294,820
„ „ „ 1859	194	12,938	107,919	1,040,644	1,161,501
Increase of year 1860 over year 1859 - - - - -	103	1,805 less than in 1859.	58,621	76,303	133,319

Statement No. II.

Statement showing the Receipts from the Conveyance of Passengers, Goods, and Railway Materials, during the Years ending 30th June 1860 and 30th June 1859.

Half-year ending	Receipts from			Total.	Working Expenses.	Net Profits.
	Passengers.	Merchandise.	Railway Materials.			
	£	£	£	£	£	£
31st December 1859 -	32,704	28,097	19,574	80,375	46,706	33,669
30th June 1860 - -	40,047	53,170	8,089	101,302	60,090	41,212
Whole year ending 30th June 1860 - - -	72,747	81,267	27,663	181,677	106,796	74,881
Whole year ending 30th June 1859 - - -	60,785	57,079	29,567	147,431	65,491	82,940
Increase in 1860 over year 1859 - - -	11,962	24,188	1,904 less than in 1859.	34,246	41,305	8,059 less than in 1859.

Statement No. III.

Statement showing the Number of Passengers conveyed per Mile, and conveyed in each Class per Mile, during the Years ending 30th June 1859 and 30th June 1860.

Year ending	Number of Miles open.	Total Number of Passengers conveyed per Mile.	Total Number of Passengers conveyed per Mile.		
			1st Class.	2d Class.	3d Class.
30th June 1859 - -	194	5,987	67	556	5,364
„ 1860 - -	297	4,359	37	561	3,761
Difference between year year 1859 and year 1860	103 more open than in 1859.	1,628 less than in 1859.	30 less than in 1859.	5 more than in 1859.	1,603 less than in 1859.

Statement No. IV.

Comparative Statement showing the Receipts from each Class of Passengers during the Years 1858–59 and 1859–60.

Year ending	Receipts.			Total Receipts.
	1st Class.	2d Class.	3d Class.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
30th June 1859	4,827 14 6	8,759 8 0	47,198 1 1	60,785 3 1
„ 1860	4,191 14 10	11,685 10 4	56,769 15 3	72,647 0 1
Difference in the Receipts of the two years 1859 and 1860	635 19 8 less than in 1859.	2,926 2 4 more than in 1859.	9,571 14 2 more than in 1859.	11,861 17 0 more than in 1859.

Statement No. V.

Statement showing the Percentage of Working Expenses to Gross Receipts, and the Proportion per cent. of Receipts from Passengers and Goods, for the Years ending 30th June 1859 and 30th June 1860.

Year ending	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
30th June 1860	58·7	40·4	60·5
„ 1859	44·1	41·0	58·3

MADRAS RAILWAY.

Madras Railway.

47. At the beginning of the year, 96 miles were open. In January 17, in February 10, and in May 14 miles more were added, making, at the end of the same year, 137 miles in all. The subjoined returns are applicable to an average length of about 110 miles for the year. They present, upon the whole, satisfactory results and possess several encouraging features. Both the number of passengers and the amount of goods have increased, and while the receipts per mile naturally fell off upon the further extension of the line, the gross receipts have not been reduced in an undue proportion. The low fares which have been judiciously imposed are at length drawing the traffic from the old roads to the railroad.

Statement No. I.

Comparative Statement showing the number of Passengers conveyed in each Class during the Years 1858–59 and 1859–60.

Year.	Miles open.	Number of Passengers conveyed.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Half-year ending 31st Dec. 1859	96	1,043	5,270	351,444	357,757
Half-year ending 30th June 1860	137	1,303	5,076	443,845	450,224
Total year ending 30th June 1860	137	2,346	10,346	795,289	807,981
Total year ending 30th June 1859	96	929	11,598	276,422	288,949
Increase of year ending June 1860 over year ending June 1859	41	1,417	1252 less than in year 1859.	518,867	519,032

STATEMENT No. II.

COMPARATIVE STATEMENT showing the Receipts from Passengers,* Goods, and Railway Materials together with the Working Expenses and Net Profits, for the years 1858–59 and 1859–60.

Half-year ending	Receipts.			Total Receipts.	Working Expenses.	Net Profits.
	Passengers.	Merchandise	Railway Materials.			
	£	£	£	£	£	£
31st December 1859 - -	14,575	25,906	5,930	46,411	12,166	34,245
30th June 1860 - - -	20,873	14,607	3,965	39,445	17,550	21,895
Whole year ending 30th June 1860 - - -	35,448	40,513	9,895	85,856	29,716	56,140
Whole year ending 30th June 1859 - - -	22,299	39,226	5,617	67,842	17,958	49,884
Increase of year 1860 over year 1859 - -	13,149	1,287	4,278	18,014	11,758	6,256

* The Receipts for Passengers in this Statement include fares taken for the conveyance of soldiers.

STATEMENT No. III.

STATEMENT showing the total Number of Passengers conveyed per Mile, together with the Number conveyed in each Class, during the Years 1858–59 and 1859–60.

Year ending	Total Number of Passengers conveyed per Mile.	Number conveyed per Mile.		
		1st Class.	2d Class.	3d Class.
30th June 1859 - -	3,069·7	9·6	180·8	2,879·3
„ 1860 - -	6,535·2	17·1	76·9	5,805·0
Increase of year 1860 over year 1859 - -	3,465·5	7·5	103·9 less than in year 1859.	2,925·7

STATEMENT No. IV.

COMPARATIVE STATEMENT showing the total Receipts* from each Class during the Years ending June 1859 and June 1860.

Year ending	Receipts.			Total Receipts.
	1st Class.	2d Class.	3d Class.	
	£	£	£	£
30th June 1859 - -	523	1,479	19,277	21,279
„ 1860 - -	944	1,489	29,914	32,347
Increase during year 1860 over year 1859 - -	421	10	10,637	11,068

* These Receipts are exclusive of fares for the conveyance of soldiers,

STATEMENT No. V.

Traffic Operations.

Madras Railway.

STATEMENT showing the Percentage of Working Expenses to Gross Receipts, and the Proportion per cent. from Passengers and Goods, during the Years ending June 1859 and 1860.

Year ending	Percentage of Working Expenses on Gross Receipts.	Proportion per cent. of Receipts between	
		Passengers	and Goods.
30th June 1860	34·6	41·3	58·7
" " 1859	52·9	46·5	53·5

BOMBAY AND BARODA RAILWAY.

Bombay & Baroda Railway.

48. In February last, 29 miles of the Bombay and Baroda Railway were opened for traffic, but, inasmuch as both ends of the line terminated on the opposite sides of the rivers to the towns which the railway is to connect, the traffic was commenced under very disadvantageous circumstances, and was confined almost entirely to passenger traffic. The results, therefore, can form no criterion of what the traffic will be when the railway is carried across the Taptee and Nerbudda rivers. The bridge over the former is now completed, and trains are running over it. The latter will, it is expected, be in the same position in June next.

49. The following return relates to traffic from the 5th February to the 1st July:—

RECEIPTS and EXPENDITURE on Revenue Account of the Bombay, Baroda, and Central India Railway, from 10th February to 30th June 1860.

Total Receipts.			Total working expenses.			Net Profits.		
£	s.	d.	£	s.	d.	£	s.	d.
2,618	12	6	1,998	13	7	609	19	0

	Number of Miles open.	Passenger Traffic.			
		1st Class.	2d Class.	3d Class.	Total.
Twenty-one weeks, from 5th February 1860 to 1st July 1860 - - -	29	312	1,045	49,263	50,620

The very small number of 1st or 2d class passengers would seem to point to the necessity for some revision in the fares for these classes.

GENERAL TRAFFIC RESULTS.

General Traffic Results.

50. Although these statements exhibit satisfactory results as regards increased traffic, and indicate an improved policy with respect to the regulation of fares and the adaptation of the railways to the peculiar circumstances of the country, their remunerative powers cannot safely be determined until the lines are completed from end to end, and are in fair working order. The East Indian may be taken as an example. Calculations have hitherto been made on the assumption that the cost would be about 12,000*l.* a mile, but it is now estimated that it will be upwards of 16,000*l.*; so that, instead of a revenue of 802,950*l.* to produce a profit of five per cent., there must be a revenue of 1,100,000*l.* Judgment must, accordingly, be suspended until all the materials for calculation are attainable, But adverting to the increase of traffic that has already taken place on the broken

General Traffic Results.

sections of line which have been opened from time to time, to the average amount of working expenses, which will probably be further gradually reduced by the employment of native skill and labour, and by the use of native fuel, there is good ground for the hope that the increase in the original estimate of their cost will not prevent them from being remunerative.

51. The following statements relate to the combined traffic of the three railways:—

Statement No. I.

Statement showing the General Traffic Operations of the three Railways combined, for the Years 1859 and 1860.

Year ending 30th June	Number of Miles open.	Railway.	Number of Passengers. 1st Class.	2d Class.	3d Class.	Total.	Receipts from Passengers.	Receipts from Merchandise	Receipts from Railway Materials	Total Receipts.	Working Expenses.	Net Profits.
							£	£	£	£	£	£
1860	723	289 East Indian 297 Great Indian Peninsula 137 Madras	33,792	254,212	3,549,324	3,837,324	226,841	296,661	62,825	586,328	283,148	303,180
1859	433	142 East Indian 194 Great Indian Peninsula 96 Madras	28,973	176,826	2,516,583	2,722,382	157,431	168,285	56,709	382,425	187,065	195,360
		Increase of year 1860 over year 1859	4,819	77,386	1,032,737	1,114,942	69,410	128,376	6,116	203,903	96,083	107,820

Statement No. II.

Statement showing the Number of Passengers per Mile on the three Railways during the Year ending 30th June 1859 and 1860.

Year ending	On the East Indian.	On the Great Indian Peninsula.	On the Madras.	Average on the Three Lines.
30th June 1860	10,883	4,359	5,897	7,044
„ 1859	9,661	5,987	3,009	6,533

Statement No. III.

Statement showing the Proportion per cent. of Passengers contributed per Mile by each of the three Companies during the Years ending 30th June 1859 and 1860.

Year ending	East Indian.	Great Indian Peninsula.	Madras.
30th June 1860	49·9	20·0	30·1
„ 1859	48·6	41·2	10·2

Statement No. IV.

Statement showing the Proportion per cent. of Passengers conveyed in each Class by the three Companies combined during the Years 1859 and 1860.

Year ending	1st Class.	2d Class.	3d Class.
30th June 1860	0·8	6·4	92·8
„ 1859	1·2	6·2	92·6

STATEMENT No. V.

STATEMENT showing the Total Receipts, Working Expenses, and Net Profits of the three Railways for the Years 1858–59 and 1859–60.

Year ending	Receipts from Passengers.				Receipts from Merchandise.				Receipts from Railway Materials.				Total Receipts.
	East Indian.	Great Indian Peninsula.	Madras.	Total.	East Indian.	Great Indian Peninsula.	Madras.	Total.	East Indian.	Great Indian Peninsula.	Madras.	Total.	
	£	£	£	£	£	£	£	£	£	£	£	£	£
30th June 1860	118,647	72,747	35,448	226,842	174,881	81,267	40,513	296,661	25,267	27,663	9,895	62,825	586,328
„ 1859	73,947	60,735	22,299	157,031	71,980	57,079	39,226	168,285	21,525	29,567	5,617	56,709	382,425
Increase of year 1860 over year 1859	44,500	11,982	13,149	69,811	102,901	24,188	1,287	128,376	3,742	1,904 loss than in 1859.	4,278	6,116	203,903

(*continued.*)

Year ending	Working Expenses.			Total Working Expenses.	Total Profits.
	East Indian.	Great Indian Peninsula.	Madras.		
	£	£	£	£	£
30th June 1860	146,636	106,796	29,716	283,148	303,180
„ 1859	103,616	65,491	17,958	187,065	195,360
Increase of year 1860 over year 1859	43,020	41,305	11,758	96,083	107,820

52. The following statements prepared by Captain Stanton, the Consulting Engineer to the Government of Bengal show the number of fatal and other accidents during the year 1859. The returns for 1860 have not been received from India. Accidents.

NUMBER of Persons killed and injured from all Causes on Indian Railways during 1859.

	East Indian Railway.				Bombay, Great India Peninsula Railway.		Madras Railway.	
	Bengal Division.		North-West Provinces Division.					
PASSENGERS.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers killed and injured from Causes beyond their own control	–	1	–	–	4	5	–	–
Ditto owing to their own misconduct or want of caution	1	2	1	–	–	1	–	–
Total Passengers killed and injured	1	3	1	–	4	6	–	–
PEOPLE CONNECTED WITH THE RAILWAY.								
Servants of the Company or of Contractors killed or injured from Causes beyond their own control	1	1	1	–	–	4	–	–
Ditto owing to their own misconduct or want of caution	7	4	7	7	5	7	3	–
Total railway people	8	5	8	7	5	11	3	–
OTHERS, NEITHER PASSENGERS NOR RAILWAY COMPANY'S SERVANTS.								
Trespassers	3	–	1	–	3	2	–	–
Suicide	1	–	1	–	–	–	–	–
Total Persons unconnected with the Railway	4	–	2	–	3	2	–	–
Grand Total, killed or injured	13	8	11	7	12	19	3	–
Mean length of Railway open during year	150		120		205		96	
Number of Passengers carried	1,388,714				1,210,607		513,179	

Accidents.

STATEMENT of ACCIDENTS upon Railways in India during 1859, showing the Nature of Accidents and Number of Persons killed or injured thereby.

NATURE OF ACCIDENTS.	No. of Accidents.	Passengers or Persons unconnected with the Lines.		Causes of Accidents.										
				Purely Accidental.	Causes arising from Rolling Stock or Road.				Causes attributable to the Management.					
					Neglect of		Defective condition of		Defective Discipline.					
									Unpunctuality.					
		Killed.	Injured.		Machinery of Train.	Road.	Machinery of Train.	Road.	Accidental.	Defective or inadequately enforced System.	Insufficient or inadequately Regulations.	Defective System for recurring intervals between Trains.	Negligence of Servants.	Improper interference by Persons not under the control of the Company.	Malicious attempt of Persons not under the control of the Company.
EAST INDIAN RAILWAY, BENGAL DIVISION.															
Accidents from Engines or Carriages leaving the rails	2	–	–	–	–	–	–	–	–	–	–	–	2	–	–
Accidents from Collisions	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–
Accidents from Trains running through facing points	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents from persons in Train being struck against works adjacent to the line	1	1	–	1	–	–	–	–	–	–	–	–	–	–	–
Accidents, Miscellaneous	1	–	–	–	–	–	–	–	–	–	1	–	–	–	–
Total	5	1	–	2	–	–	–	–	–	–	1	–	2	–	–
EAST INDIAN RAILWAY, NORTH-WEST PROVINCES.															
Accidents from Engines or Carriages leaving the rails	3	–	–	–	–	1	–	–	–	–	–	–	2	–	–
Accidents from Collisions	1	–	–	–	–	–	–	–	–	–	–	–	1	–	–
Accidents from Trains running through facing points	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents from Persons in Train being struck against works adjacent to the line	1	–	–	–	–	–	–	–	–	–	–	–	1	–	–
Accidents, Miscellaneous	9	–	–	–	–	–	8	–	–	–	–	–	1	–	–
Total	14	–	–	–	–	1	8	–	–	–	–	–	5	–	–
MADRAS RAILWAY.															
Accidents from Engines or Carriages leaving the rails	3	–	–	1	–	–	–	1	–	–	–	–	1	–	–
Accidents from Collisions	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents from Trains running through facing points	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents from Persons in Train being struck against works adjacent to the line	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents, Miscellaneous	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	3	–	–	1	–	–	–	1	–	–	–	–	1	–	–
GREAT INDIAN PENINSULA RAILWAY.															
Accidents from Engines or Carriages leaving the rails	21	4	5	8	–	–	–	2	–	–	–	–	11	–	–
Accidents from Collisions	15	–	–	2	–	–	–	–	–	–	–	–	13	–	–
Accidents from Trains running through facing points	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents from Persons in Train being struck against works adjacent to the line	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents, Miscellaneous	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–
Total	37	4	5	10	–	–	1	2	–	–	–	–	24	–	–

STATEMENT showing the Number of Passengers carried, and those killed or injured from Causes beyond their own control. Accidents.

1859.	Total Number of Passengers carried.	Total Number		Proportion per Million	
		Killed.	Injured.	Killed.	Injured.
East Indian Railway, Bengal - -	1,388,714	—	1	·00	·72
Madras Railway - - - -	513,179	—	—	·00	·00
Great Indian Peninsula Railway -	1,210,607	4	5	3·304	4·13
Total - -	3,112,500	4	6	1·28	1·92
Average on Railways in Great Britain	139,000,000	—	—	·15	3·19

N.B.—No returns of the number of Passengers carried in the North West Provinces Section of the East Indian Railway having been received, that portion of railway is omitted in this Statement.

53. It will be observed that, out of 3,112,500 passengers, five have been killed. One, on the East Indian, was a syce in charge of Government horses, who, sitting in a dangerous position, was knocked off the carriage, and received injuries which caused his death. The other four were travelling on the Great Indian Peninsula, when five carriages were thrown off the line in consequence of a bridge giving way.

54. The following statement exhibits the prices of Indian Railway securities during the year 1860:— Prices of Railway Stock.

Railway.	January and February.			March and April.			May and June.			July and August.			September and October.			November and December.			Highest in course of the Year.	Lowest in course of the Year.
	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.		
East Indian - -	104½	101	102⅞	103	100	101½	102⅜	99⅜	101⅛	100⅛	99	99⅛	100⅜	99	99⅛	100⅜	98	99⅛	104⅛	98
Madras - - -	102	97	99½	99	97	98	99⅛	97	98⅛	97	94	95⅛	95	93	94	96⅜	93	94⅛	102	94
Great Indian Peninsula - - -	102⅛	98	100⅛	100⅛	98⅜	99⅛	100⅜	97	98⅛	98⅛	96	97⅛	97	96	96⅛	98⅜	95	96⅜	102⅛	96⅜
Scind - - -	20½	19⅛	19⅝	101	99	100	101⅜	98	99⅜	99	97⅛	98⅛	100	97⅛	98⅛	101	97⅛	99⅛	101⅜	97⅛
Indus Flotilla - -	19⅛	19	19⅛	96	94	95	101⅛	94	97⅞	95	93⅛	94⅛	95⅞	93	94⅛	96	92	94	101⅛	92
Bombay, Baroda, and Central India - -	100⅛	96	98⅛	98	96	97	97⅞	95	96⅛	95	93⅛	94⅛	95	93	94	96	92⅛	94⅛	100⅛	92⅛
Calcutta and South Eastern - -	5¼	5	5⅛	5⅛	5	5⅛	5⅛	4⅞	5	5⅛	4⅞	4⅞	5⅛	4⅞	5	5	4⅞	4⅞	5⅛	4⅞

55. The difference in the value of the stocks which bear the same rate of guaranteed interest is not easily explainable. The public are hardly yet influenced in their choice by any notion of the superior commercial value of one line over another, so that the greater demand for one may be due to accidental circumstances which cannot altogether be accounted for. The highest prices prevailed at the commencement, the lowest at the end, of the year. It should be observed, however, that India Stock and Consols were depressed almost in the same proportion.

56. It will be seen by the statements which have been given above, that, now, the only impediment to the development of the railway system in India is the apprehended difficulty in supplying funds. The physical and engineering obstacles which presented themselves, if they have not been entirely overcome, are in a fair way of being surmounted. Rivers of great width and depth are being spanned by bridges which will stand as monuments of the scientific skill of the present age; mountains will be crossed by means of works which of their kind will be unrivalled; swamps and jungles have been drained and cleared, and hills have been pierced. All this has been done with British capital, but its flow in the same direction, through the appointed channels, has for a time sustained a check. And this is not altogether to be wondered at, when the disturbing influences of the last few years are taken into consideration. For a long period the funds raised by the Companies were abundant, and balances of considerable amount Conclusion.

usually stood to their credit. There is no reason to suppose that this steady supply would not have continued had it not been for the political convulsions which have taken place. The excessive expenditure caused by the mutiny forced the Government to contract large loans, which naturally interfered with the financial operations of the Companies. This may be regarded as a temporary cause which will pass away; but it was not possible to wait for more favourable times without incurring serious loss. While the difficulties have been increasing the works have been prosecuted, and have now arrived at that stage in their progress which demands an outlay during the present year as large as last year, and higher than will be required in any subsequent year. The future progress and early success of these great works depends, then, upon the financial arrangements that may be made to meet the expenditure requisite to bring them into a profitable condition. It has all along been necessary to extend the support of the Government to the Companies which have undertaken them. Assistance has been given in the shape of a guarantee of interest upon the capital, and with this help more than thirty-four millions have been raised. Upwards of two more can be raised by calls upon issued shares, and, if the state of the money market improves, further amounts may be obtained by debentures and additional shares. But if the expenditure is at a rate more rapid than that at which capital can be raised by these means, it may be necessary to have recourse to Government aid in the shape of advances. The charge upon the State involved in this arrangement, will not be more than it now is, and the risk to the Government will not be greater, as the conditions of the contracts remain unaffected by it. There can be no doubt that the best policy to be pursued, under existing circumstances, is that which has been decided on, viz., to proceed steadily with the works which are in progress and to raise funds as required, if the Companies fail to do so, through the direct agency of Government; to postpone, but only temporarily, works which have not been commenced; and to guarantee no further projects until the lines already sanctioned have been completed.

57. The interests alike of the Government, of the Railway Companies, and of the public would be sacrificed by the suspension of operations in the present condition of the lines. Not only would a large outlay remain unprofitable, but positive loss would be incurred by the damage to, and even destruction of, unfinished works, if left to the mercy of the elements in a tropical climate. Never, perhaps, was there a time more pregnant than the present with proofs of the necessity for a sure and permanent system of internal communication in India. Whether we look to the lamentable accounts of the famine, now desolating the North-West Provinces, or to the anxiety with which passing events in America are being watched by our manufacturers, and to the temporary and necessarily imperfect measures which are being taken by the Local Governments to aid the transport of Indian cotton to this country, or whether, adverting to the large European force now destined to garrison the country, we consider the safety, ease, and economy which would be secured by the conveyance of troops by railway, the early completion of the main lines which have been sanctioned appears to be a matter of paramount importance, and to admit of no delay.

I have the honour to be,

Sir,

Your most obedient, humble Servant,

JULAND DANVERS.

APPENDIX.

No. 1.

COPY of RAILWAY LETTER (No. 12), dated 18th December 1860, from the Right Honourable the GOVERNOR GENERAL to the Right Honourable Sir CHARLES WOOD, Bart., G.C.B., Secretary of State for India.

SIR,

IN proceeding up the Ganges in the progress of my present tour, I took the opportunity of visiting three of the principal works on the East Indian Railway. These were the Monghyr Tunnel, the Soane Bridge, and the Karumnassa Bridge.

2. Of the first, I forward an interesting section, showing the progress of the work from the beginning. It will be observed that the hill pierced consists, for two thirds of the length of the tunnel, of clay slate, and for the remaining one third of hard quartz rock; and that the effect of the latter in retarding the work is apparent in the very small progress through it during each month, as shown by the tinting on the section, both in the head drifts and in the main tunnel. The portion of this hard quartz rock remaining, though less than 250 feet in length, will, it is expected, take yet eight months to remove.

3. The length of the tunnel is 900 feet. The actual tunnelling was commenced by the Contractors in March 1856, but they soon gave it up, and the work has been continued by the Railway Engineers. The work has not been one of difficulty, such as to call forth the exercise of skill on the part of the Engineers, but one of extreme laboriousness, owing to the exceeding hardness of the quartz. The careful organization of the labour, the skill which the Native miners have acquired from long experience, and the almost total freedom from accident during the long continued blasting operations, attest the ability with which the work has been superintended by Mr. Harris, the Resident Engineer.

4. But, while all praise is due to those concerned in the execution of the work, I am not satisfied that it was at all necessary to undertake it. At first it was not supposed necessary to connect the railway with the Ganges by a branch line; and under such circumstances, and while the arduous nature of the work had not been ascertained by experience, it was thought worth while to undertake the tunnel, in order to save three miles of distance between Calcutta and Delhi. Since the branch line of 5¼ miles to the Ganges has been undertaken there is no saving in length of line to be constructed, and the expense and delay occasioned by this tunnel are clearly not at all commensurate with the small advantage of a reduction of three miles in the distance to be run by through trains.

5. The cost of the tunnel when finished will be not less than six lacs of rupees.

6. To visit the Soane Bridge, I proceeded from the Bankipore station, near Patna, by truck propelled by coolies along the railway,—the rails having been laid down on this portion to facilitate the transport of the iron-work of the bridge from the Ganges. The distance of 21 miles was in this way accomplished in three hours and twenty minutes. I was conducted by Mr. Boyle, the Engineer of the celebrated Arrah defence, who is now the District Engineer at the Soane.

7. I was much struck with the magnitude of the works. The bridge, as you are aware, is to be of 27 iron lattice spans of 150 feet each. Including the abutments, the works extend over nearly a mile. Along the whole length work was in progress in various stages. Two of the iron spans had been erected, one at each end, and the rivetting of these was being finished. Staging was up for two more spans, and the iron-work was being raised. Staging was being put up for two other spans.

8. For the whole intermediate space the sinking of the foundations was in progress. Each pier is to stand on three wells of 18 feet diameter. The wells of all the piers had been sunk through 30 feet of sand to the stratum of clay which exists at that depth. They were being worked into the clay.

9. I was informed that the completion of the entire work may be hoped for in two full years from the time of my visit, if everything goes on successfully. The tediousness of the process of sinking the wells is the cause of no more rapid progress being expected. The time required for erecting the iron-work does not exceed six weeks for each span, and several could be put up at

one time if the piers were ready to receive them. The cost of the bridge, when complete, will be about 35 lacs of rupees.

10. Everything I saw bore evidence of active progress and efficient management, and reflected much credit on Mr. Boyle, and Mr. Schmidt, the Resident Engineer.

11. Of the Karumnassa Bridge, I need only say that it is to consist of 13 arches of 40 feet span, and at the time of my visit was ready to begin turning the arches. It is to be arched in by June.

12. I cannot conclude this letter without mentioning, with strong approbation, the good management and right spirit that pervade the dealings of the Officers of the East Indian Railway with the Native population. At every station I passed I made inquiries on this subject of the Civil Officers, and the answers were uniformly very favourable. Differences between the Officers of the Railway Company and the Natives in its employ are almost unheard of. Labourers come in freely to seek work, even from the wild Santhal Hills, and no impediment being offered to their return to their homes whenever the fancy seizes them, they work well and cheerfully. No signs of unwillingness on the one side, or of attempted constraint on the other, had reached any of the Magistrates or other Civil Officers with whom I conversed. I think it right, at the present time, that these circumstances should be brought prominently to the notice of Her Majesty's Government, as being most creditable to the Officers of the East Indian Railway.

13. At the Soane Bridge, and near to it, I observed amongst the workmen many who evidently had been Sepoys. Many of these had openly received their discharges from the Army, but there were others who had probably slunk back to their homes unobserved. They were spoken of by the Engineers as useful, well-behaved men, and as being those from whom the police of the works and petty officers were mostly chosen. This employment of a class who are not generally willing to take to field labour in their own villages has, I have no doubt, contributed to the thoroughly peaceful condition which now prevails throughout Behar.

14. In your Despatch, No. 80, of the 17th October, you observed that you would look for an improved result in the train mileage receipts of the East Indian Railway after the opening to Rajmahal. I would take this opportunity of intimating that I am not sanguine in my expectations of a rapid improvement from that cause. The transfer of trade to Rajmahal, as the landing port of goods descending the Ganges, must be gradual, and, as regards the transactions of Native traders, will probably be slow.

I have the honour to be, &c.,
(Signed) CANNING.

No. 2.

EXTRACT of a PAPER by Mr. J. J. BERKLEY, Chief Engineer, Great Indian Peninsula Railway Company, describing the Works on the Bhore Ghât Railway Incline.

The Bhore Ghât Incline is 15 miles 68 chains long. The level of its base is 196 feet above high-water mark in Bombay, and of its summit 2,027 feet, so that the total elevation surmounted by this incline in one long lift is 1,831 feet. Its average gradient is consequently 1 in 48.

The gradients of the Bhore Ghât Incline, which are all ascending, are as follow:—

	Miles.	Chains.		Miles.	Chains.
Level	0	33	1 in 37	0	28
1 in 50	2	15	1 in 75	0	27
1 in 40	5	6	1 in 37	1	10
Level	0	10	1 in 330	0	23
1 in 42	1	11	1 in 40	0	51
1 in 43	0	31	1 in 50	0	41
1 in 40	1	46	1 in 40	0	63
1 in 50	0	39	Level	0	33

The curves upon it are—

	Miles.	Chains.
15 chains radius	0	22
20 ditto	0	28
Between 20 and 30 ditto	1	48
30 ditto	4	37
Between 30 and 40	1	9
„ 40 and 50	0	71
„ 60 and 70	0	57
„ 80	0	78
Straight	5	33

The works consist of twelve tunnels, of the following lengths:—

Tunnel No. 1	286 lineal yards.	Tunnel No. 7	33 lineal yards.
„ 2	291 „	„ 8	53 „
„ 3	282 „	„ 9	280 „
„ 4	140 „	„ 10	121 „
„ 5	437 „	„ 11	346 „
„ 6	204 „	„ 12	62 „

The total length of tunnelling is 2,535 yards. Short additional tunnels will probably be substituted for the deepest parts of some of the cuttings. There are eight viaducts, of which the dimensions are given in the following list:—

		Yards.	Feet.
Viaduct No. 1,	eight 50 feet arches	168 long,	127 high.
„ 2,	six 50 „	128 „	95 „
„ 3,	four 50 „	85 „	74 „
„ 4,	four 50 „	85 „	94 „
„ 5,	eight 50 „	168 „	139 „
„ 6,	six 40 „	101 „	85 „
„ 7,	four 30 „	52 „	45 „
„ 8		101 „	56 „

The total quantity of cuttings amounts to 1,623,102 cubic yards. The largest cuttings contain respectively,—

113,000 cubic yards.
72,000 „
96,000 „
77,000 „
75,000 „

The greatest depth of cutting is 80 feet. The embankments amount to 1,849,934 cubic yards. The heaviest embankments contain, respectively,—

159,000 cubic yards.
128,000 „
139,000 „
263,000 „
125,000 „
209,000 „

Their maximum height is 74 feet. The quantities of cuttings and embankments are liable to alteration during the construction of the Incline. There will be 18 bridges, of various spans, from 7 to 30 feet, and 58 culverts from 2 to 6 feet span. The estimated cost of this Incline is 597,222*l.*, or 41,188*l.* a mile, and its completion has been contracted for in five years from the date of commencement, which will expire in February 1861.

The tunnels nearly all contain trap rock of various degrees of hardness; very little masonry or brickwork lining will be required in them, because of the compact nature of the rock. Their ruling characteristics consist in the hardness of the rock, and in the lofty and precipitous form of the hills, which renders it impracticable to sink shafts so as either to cheapen or expedite their construction. This compels us, in most cases, to mine them entirely from both ends, a mode of procedure which demands the utmost care in setting out the work, because the Incline being generally in those places sharply curved and upon steep gradients, it becomes more difficult to maintain accuracy in the lines and levels for the work so as to ensure perfectly true junctions in the tunnels. We have hitherto met with very little water in the course of our mining operations. The ground at the tunnel faces has occasionally proved to be of such a character as to require special precautions for the purpose of preventing slips in the hill-sides, because, superincumbent upon the beds of trap rock at the Ghâts, we have generally met with a thick stratum of boulders, embedded in soft red moorum, and when the support is taken away from this stratum, and the surfaces of our excavations are exposed to the wet weather, the moorum becomes saturated, and, yielding to the weight of the boulders, the stratum is inclined to fall away in large masses. To obviate this, it will probably be necessary for us to clear off a cess a few feet wide upon the top of the rock, upon which we shall occasionally have either to build retaining walls, or in other instances to dress off the beds of moorum and boulders to a flat and secure slope. The mining of our tunnels is executed in the following mode:—We precede at both ends with headings about 12 feet wide and 9 feet high, and this operation is followed up by the excavation of the tunnel to its full size. In the headings, one of the worst circumstances is imperfect ventilation, which, crowded as the work is with miners, in some measure lessens the effectiveness of their labour, and entails a sacrifice of time before the headings become free from smoke after the blasting has exploded. In the headings, which are the principal portion of our tunnel operations, and rule the time of their completion, we usually employ three gangs or shifts of men during the twenty-four hours, each of whom take their turn of eight hours at the work. Specimens of the rock through which we are mining in each tunnel are exhibited.

In the earth-work, the most objectionable features are the hardness of the rocks, and the slips which are liable to happen, when we excavate and expose the strata of moorum and boulders, which I have already described in speaking of the tunnel faces. In the cuttings, these circumstances will be dealt with in a similar manner.

There is one cutting along the top of Battery Hill, which overhangs the mail road on the left side, just where travellers may notice the mouth of one of our tunnels on their right hand. This cutting chiefly consists of rock, and where it breaks into the hill we have met with a basaltic crest crowning it. Beneath the cutting there is a broad shelf of ground, and immediately under the railway a long gaping cavity in the rock. These circumstances are not only worthy of the attention of visitors to the works, but have a claim to some practical notice from me on the present occasion. The existence of the basaltic cap upon the ridge of the hill, and the open and free scarp along which our cutting extends, have led the Contractor to make use of unusually large drills. Each of these drills is required to be worked by four Natives, and makes a hole 7 feet deep and 3 inches in diameter. These shots are most effective; they are generally driven well back in the hill, and produce a powerful explosion, throwing large masses of rock down to the cess below. The cavity beneath the railway is so little below its formation level, that it will in all probability be necessary for us to make it secure by underpinning it with masonry. I know of no similar circumstances, nor of such work upon any other railway. The geological peculiarity of this hill will, no doubt, attract the notice of many visitors; and I am happy to say that, when the railway is finished, a section of the trap will still be left cresting the mountain, and screening the railway from the public road. Another singular fact connected with this part of the line is, that in consequence of the Reversing Station, one portion of the Incline will be nearly parellel to and much above the other, both being, as it were, terraced 1,400 feet directly over the Konkun. These facts will, no doubt, elicit many remarks from railway travellers when the railway comes to be worked. There is one other singular danger at the cuttings, which we shall have to obviate before the line can be safely opened for public traffic. It is this, that the hill-sides above the cuttings are generally covered with loose boulders scattered over the surfaces. These blocks, under ordinary circumstances, are constantly set free by the rains, and roll down towards the valleys. Every season numerous instances of this kind might be observed; and it will be our duty to protect the line from such contingencies hereafter, by removing from the flanks of the mountains above the railway all boulders that may threaten to fall upon it.

In the embankments, the most unfavourable points are the scouring of the slopes by the heavy rains in the monsoon; but these contingencies will not be of long duration, for, during the period of construction, the material of which the embankments consist will have become so thoroughly consolidated as to leave but a remote chance of the slopes being affected by the rains. The ground along the flanks of the Ghât mountains is often of so precipitous a character that we have met with frequent cases where, on the upper side, we have only a low embankment, while on the other side, the bottom of the slope would be of an impracticable depth, unless it were retained by a strong wall of substantial masonry. In some situations, we meet with the extraordinary circumstance of one half of the line being upon rock benching, and the other half consists of a very lofty embankment, or of a high embankment retained by a wall of masonry. In other places, again, we have found the mountain sides so steep as to render it unadvisable to encounter the difficulty of embanking the line, or building battering walls, because they would be of enormous height above the surface of the ground, and would have to be carried down to a great depth beneath it before a secure foundation could be obtained for them. Under this peculiar state of things, we have determined to place the line upon arches or vaults. These will sometimes be of a novel description, for we shall have here and there to place one half of the width of the railway upon rock benching, while the other half will stand upon vaulted arches. Some of these cases are illustrated by the cross sections exhibited to the meeting. These various works will constitute some of the most striking peculiarities in the construction of the Bhore Ghât Incline. They are of so contingent and accidental a nature as to render it sometimes impracticable for an engineer to prepare his designs for dealing with them, until the ground has been opened out and the works have advanced.

Some of the viaducts are extensive works, and of great height. The one which crosses the Mhow-ke-Mullee Khind consists of eight semicircular arches of 50 feet span, and it is 139 feet above the surface of the ground. This elevation, however, does not represent the true height of the work, because we have had to excavate to a depth of 24 feet before we could reach a sufficiently solid bed of rock for founding so stupendous a work as this, which will be 163 feet high above the footing. We have made it a rule not to build these viaducts upon anything but a compact bed of natural rock, and, knowing from experience the treacherous nature of the stratum of boulders and moorum, we have frequently abstained from founding our work upon ground which, though it consisted of rock, was evidently but a portion of that insecure bed. In other cases, when we have at length reached the natural rock, we have discovered that its surface sloped so much that we could not begin our masonry until we had worked it off into horizontal beds. Our viaducts are being built of solid block-in-course masonry up to the surface of the ground, and above that of block-in-course facework, strongly tied through by bonds of block-in-course to the internal work of sound rubble. There will be another viaduct upon this Incline, of so unique a character, that a brief description of it may, no doubt, be interesting to you. It will be placed where the line will appear to retrograde as it emerges from the Reversing Station. It will be seen in outline upon the plan, forked, or something like a

Roman capital letter Y, with the left hand line longer than the right. The two diverging lines will be inclined at different levels, while that portion of the viaduct which may be represented by the tail of the Y will be built for both lines at the same level. Those alone who are familiar with the ground, and the character of the design, can at present realize the future appearance of this viaduct; but I believe that, when completed, it will be generally considered one of the most extraordinary and interesting works upon the Incline. It is my wish to impress upon your minds that neither this nor any design upon the Bhore Ghât Incline will be prepared with any other view than that of adapting them in the most economical and appropriate manner to the circumstances of each case; and yet, by acting strictly upon this principle, and without seeking to distinguish the construction of the Incline by any original or peculiar conceptions, it will undoubtedly present works of so unique a character as to invest them with especial interest both in the eyes of casual and professional observers.

The Reversing Station has an indisputable claim to that designation for the following reasons: the engines will be turned there; the tail of each train will become the head, and, as it leaves the station, it will appear to retrograde.

The objects we had in view in the introduction of this Reversing Station were to increase the length of the base, in order that we might flatten the gradient of the Incline, and to attain a higher level where it entered upon the great features of the Ghât margin, near Khandalla. Without the adoption of this expedient, the practicability of changing the direction of the line, so as to gain access to a greater extent of suitable ground, was confined to the use of curves of small radius; but with the Reversing Station we were enabled to alter the direction of the line, by means of points and crossings, at a very acute angle. The map clearly illustrates this. The ———— line was the best and longest course we could obtain without the Reversing Station; but, in consequence of its adoption, you will observe that we prolonged our Incline by nearly the difference between the length of the two sides of an acute angled triangle and that of its base. You have probably heard of the "American zigzag" mode of laying out a mountain railway ascent, and, although I have not yet seen a drawing of it, I apprehend that our Reversing Station is an application of the same principle of design.

In designing the permanent road, we have not been unmindful of the particular characteristics of this Incline. From the length and severity of its gradients, it must be a matter of necessity to make use of very heavy engines, in order to obtain that great haulage power which will be indispensable for the conveyance of a due net load of traffic in each train up the Incline. The adoption of heavy engines equally necessitates the use of heavy materials, and a strong mode of putting the permanent road together. The power of the engine, as you well know, is limited by its adhesive force upon the rails; and consequently it became the object of our particular study, not only to procure rails of a very strong section, but also to have them made by such a process of manufacture as might fit them to endure for a long period the powerful causes of wear and tear, to the action of which they must inevitably be subjected if the vast traffic of this country is to be properly accommodated.

For the attainment of this important end, the Consulting Engineer, Mr. Stephenson, had an entirely new specification prepared for the manufacture of the Ghât rails. The rails weigh 85 lbs. per lineal yard; four fifths of them are 21 feet long,—which is an advantage, because the number of joints, the weakest part of the road, is thereby lessened.

No. 3.

EXTRACT PAPER by MR. J. J. BERKLEY on the Thul Ghât Incline.

In such a populous country as this, and with the prevailing prices of labour at a minimum, it has always appeared to me to be impossible that the liberality and devices of English enterprise could so fail in their operation upon the industrial classes of India, as not to procure an ample supply of labour for the completion of undertakings materially affecting the prosperity of commerce, the public revenue, and the convenience of the people. In proof that the adverse anticipations of others were ill-conceived, I have only to mention that, at the present moment, we employ more than 30,000 men upon the Bhore Ghât Incline, extending over only 14 miles of railway; that this enormous body is collected from all quarters of the country,—from Bombay and Hyderabad, from Gwalior and Goa, from Ahmedabad and Kolapore, from Broach and Dharwar, from Tanna, Sholapore, and Rutnagherry, Sattara, Belgaum, and Poona, from Sawunt Warree and the Concan; and that it comprises 32 different classes of artisans and labourers, of whom there are 10,822 drillers and 2,659 masons.

* * * * * * * * *

The Railway Incline which we are now constructing at the Thul Ghât commences upon the left bank of the Rotunda Nullah, near the Bombay and Agra Road, and proceeds over some heavy ground, with one tunnel, through the Lara Khind to the Manda-Sheyt Nullah, which it crosses by means of a large viaduct. It then perforates a high spur of the mountains by a long tunnel. Emerging from this, it passes over two rocky ravines, and through the intervening ridge by a tunnel. It thence ascends along the flank of the hills, which overhang the village of Kussara, and, spanning the Kussara Nullah by a viaduct, crosses the Thul Ghât Road below

the Toll House, and enters upon the site selected for the Reversing Station, between the Mail Road and the Paithur Nullah. The Reversing Station is very similar in its engineering and physical characteristics to that of the Bhore Ghât, which is now sufficiently shaped out for visitors to comprehend its peculiarities; and it will, therefore, be unnecessary for me to detain you with any further description of this device. From the Reversing Station the line strikes out at an acute angle through the Mussoba Khind, and rises by a curvilineal route along the northern flank of the lofty mountain called "Beulah," the spurs and ravines of which have necessitated the construction of several tunnels and two viaducts. After leaving our longest tunnel, which you will observe near the middle of the section, the Incline crosses the enormous gorge at the head of the Ehegaum Nullah by a viaduct of extreme dimensions; and, traversing very rough ground by means of high embankments and two tunnels, it enters nearly at right angles the spur up which runs the old Ghât Road. With another tunnel through this hill it reaches the left bank of the Beenah Nullah, which it crosses and recrosses by two bridges, and then ascends to the summit upon the open level ground close to the Mail Road on the western side of the village of Egutpoora. This Incline is 9 miles 26 chains long; the level of its base is 940 feet, and of its summit 1,912 feet above high-water mark in Bombay, so that its total altitude is 972 feet. Its average gradient is consequently 1 in 56, that of the Bhore Ghât being 1 in 48.

The gradients which are all ascending, are as follows:—

	Miles.	Chains.		Miles.	Chains.
Level	0	2	1 in 88	0	35
1 in 60	0	47	Level	0	20
Level	0	16	1 in 60	0	10
1 in 60	1	3	1 in 37	4	29
1 in 50	0	42	1 in 45	0	13
Level	0	8	1 in 102	0	70
1 in 60	0	35	Level	0	12
1 in 148	0	23			

The curves are—

	Miles.	Chains.
17 chains radius	0	33 long
20 ditto	0	47
Between 20 and 30 ditto	1	33
„ 30 and 40 ditto	2	68
„ 40 and 50 ditto	0	10
60 ditto	0	39
80 ditto	0	24
100 ditto	0	4
Straight	3	27

The works consist of 13 tunnels, of an aggregate length of 2,652 yards, and of the following respective lengths:—

	Yards.		Yards.
Tunnel No. 1	130	Tunnel No. 8	412
„ 2	490	„ 9	70
„ 3	80	„ 10	50
„ 4	235	„ 11	261
„ 5	113	„ 12	140
„ 6	123	„ 13	58
„ 7	490		

so that uponthe two Ghât Inclines we are at present making as many as 38 tunnels.

There are six viaducts, of the following dimensions:—

	Yards.	Feet.
Viaduct No. 1	66 long	90 high
„ 2	143 „	84 „
„ 3	66 „	87 „
„ 4	66 „	90 „
„ 5	250 „	200 „
„ 6	150 „	60 „

The total quantity of cutting amounts to 1,241,000 cubic yards. The greatest depth of cutting is 60 feet, and the largest cuttings contain—

Cutting No. 1	58,000 cubic yards.
„ 6	40,000 „

The quantity of embankment amounts to 1,245,000 cubic yards. Their maximum height is 90 feet, and the heaviest embankments contain—

Embankment No. 4	190,000 cubic yards.
„ 6	90,000 „
„ 18	220,000 „

These details of the earth-work will be liable to alteration during construction, in order to provide for the security of the line by flatter slopes wherever the material may prove to be of a soft or treacherous nature. There are 15 bridges of various spans, from 7 to 30 feet, and 62 culverts.

The estimated cost of this Incline is about 45,000*l.* per mile, and its completion has been contracted for on the 31st May 1863. The probable cost of the Bhore Ghât will be about 46,000*l.* per mile. This presents conclusive evidence that, mile for mile, the works of the Thul Ghât are nearly as extensive as those of its formidable rival. The tunnels all contain trap-rock, and the two near the bottom of the Incline consist throughout of basalt of the hardest description. Of these, the Manda-Sheyt tunnel, 490 yards long, deserves more particular notice. The process of blasting the basalt which it contains, was so slow, that it has been necessary, at considerable cost, to sink two shafts; and as these are charged with water during six months of the year, we find our operations encumbered not only with the difficulties of mining such extremely hard rock, for which steel drills are used, but also with the contingency of pumping. It is probably upon this work that the completion of the Incline will ultimately depend; and, situated as it is near the foot of the Ghâts, and attended with every disadvantage, it will call for the utmost exertions and perseverance to accomplish, in due time, that important object. The only other tunnel upon which I shall offer any observation is the long one near the middle of the Incline. Its great length formerly led us to regard it as the key to the opening of a railway communication up the Ghât; but, on proceeding with our mining operations, we fortunately discovered that the mass of the hill consisted of rock of a favourable nature; and the consequence has been that, although the work was not begun until March 1859, we have already carried a heading through 258 lineal yards, or about five ninths of the total length of the tunnel, in one year and a half. No progress which we have hitherto attained has equalled the rapidity with which this tunnel has been executed; so you see a prize may be drawn even in the lottery of Ghât contingencies.

Of the six viaducts, there are three to which I invite your attention. The Manda-Sheyt viaduct, at the entrance to the tunnel of that name, is a large structure, already in a very forward state. Tackle, of a workmanlike description, to hoist the materials for the masonry, has been fixed at each pier. Tramways have been laid in various directions from the adjacent quarries, smitheries, carpenters' shops, masons' sheds; and labourers' huts have all been erected. By these means the execution of the work has been both expedited and economised.

The great viaduct over the Ehegaum Ravine is distinctly marked upon the section, and will be more intelligible to you in the special drawing which I have exhibited. I believe it to be the highest viaduct that has been designed in India. The level of the railway is 188 feet above the surface of the ground, and, as we have a depth of upwards of 20 feet to excavate for good foundations, the two central piers will be 200 feet high. The iron girders will be on Warren's principle, and 150 feet in span from end to end. I do not propose to occupy your time with a description of them especially, as I know my friend Mr. Terry intends, in the course of the season, to read a paper upon this interesting subject. You will, however, readily discern one practical difficulty which lies before us, in having to lift the girders from the bottom of the ravine to their resting-place upon the tops of those lofty piers. The difficulty of the problem consists not so much in the weight of the girders (each of which may be calculated at about 32 tons), but in the following peculiarities—that the triangular girders, strong as they are when framed complete for sustaining a vertical pressure, are laterally very weak, and that the ends of the girders, which are to bear upon the piers and abutments, must be carried up through recesses in the masonry. To obviate the imminent risk of damage to the girders from lateral motion while they are being lifted separately so great a height as 200 feet, we have made our arrangements for hoisting them in pairs, so that they may be stiffened by those connecting parts which are intended to steady them, when the permanent road is laid. To lift them in pairs, as we propose to do, will require a recess 8 feet 6 inches wide, and 4 feet deep in each side of the piers, from the surface of the ground to the bed of the girders; and you will thus observe that the design of the piers, themselves of that enormous height, has demanded careful study. The plan we have adopted is to build a rectangular pier 15 feet 6 inches thick, with two counterforts at each corner of the recesses. By this means we have not only strengthened that part of the pier which would be endangered by the existence of the recesses, but, without adding materially to the quantity of masonry, we have increased the steadiness and stability of the whole structure by widening its base. The lifting power to be employed might consist either of crabs or screws, but as the motion of the screw is so smooth, and its action so regular, we intend to use it for hoisting, and crabs for securing the girders against any accidents in the process. The screw will be placed upon the top of the pier, and immediately over the recess. From it will be suspended strong iron links, each several feet in length, down to the top table of the girders; the lifting will then commence, and as the girders ascend, they will be propped from stage to stage, and the links be successively disconnected as the girders rise in pairs towards their bed upon the viaduct. Should any casualty happen in the performance of this operation, we shall be prepared with crabs and derricks and strong chains to keep a constant hold of the girders, and thus prevent any fall or jerk while they are suspended on the lift. The present condition of this stupendous work is already worthy of examination, from the admirable arrangements which the contractors (Messrs. Wythes and Jackson) have made for its execution, and in which the peculiar form of the great ravine has afforded them extraordinary facilities. As it advances, the proximity of this colossal viaduct to the public road, the magnitude of its dimensions, and the peculiarity of its design will, no doubt, be deemed by many travellers a sufficient inducement to

pay a visit to the scene of operations; and the viaduct will, I trust, when finished, with its iron superstructure and its lofty stone piers, be no unworthy memorial of the bold enterprise and practical skill of our countrymen, as well as of the excellent materials and industrial classes of India.

The last viaduct, concerning which I shall offer a few remarks, is that which you will find upon section at the upper end of the tunnel under the old Thul Ghât Road; and although its design presents no peculiar feature, its position is remarkable, for it will stand upon a rock scarp overhanging the gorge of the Beena Nullah. The cross sections (Nos. 491 to 495) represent the abruptness of this precipice, and will show you why a viaduct was substituted for an embankment, and how the piers and abutments are notched and bedded into the rock escarpment.

In the earth-work there is little to claim your attention, except the mode by which large quantities of materials are tipped into such high embankments as those three which you see near the base and middle of the Incline. These will be found worthy of your inspection, if, when the railway is opened to Kussara, you should be induced to pay a visit to the works of this Incline. The material of which they are made has to be procured from the bottoms and sides of the adjacent hills at suitable and various levels; and from the faces where these side cuttings are excavated, temporary waggon-tramways are laid to the embankments. The extent to which this expedient is adopted will, I have no doubt, astonish all who are not familiar with English railway operations; for in one of the large embankments there are 27, and in another 16, different lines of tramway in daily use for the conveyance of the earth. The lofty embankment which you observe upon the section above the Reversing Station is likewise remarkable, for it will have to be made in such a manner as to carry two double lines of railway, one of which will stand at an extreme height of 51 feet above the other. It will also present another peculiarity, for the lower line upon one side of the embankment will ascend towards the Reversing Station, while the upper line will rise rapidly away from it. Upon the Bhore Ghât Incline you have, no doubt, seen the large viaduct which spans the public road a quarter of a mile above the Toll House. That viaducts corresponds, by a close analogy of position, with the embankment which I am describing upon the Thul Ghât Incline, and it may therefore be interesting for me to explain the reason why in one case a viaduct should have been designed, while in the other the object is effected by earth-work. At the Bhore Ghât, the railway at that point stands upon the narrow crest of a hill, and if an embankment had been made, its slopes would have descended the mountain sides to an enormous depth, and its stability have been constantly endangered. Upon the Thul Ghât, on the contrary, the two lines, which are in close contiguity on emerging from the Reversing Station, pass over a nearly level plot of ground, affording a safe and firm basement for the bank. We have, therefore, economically adopted that course which would, as I have shown you on the Bhore Ghât, have been attended with so much damage to the permanent safety of the Incline.

No. 4.

LETTER from W. B. WRIGHT, Esq., to the Agent and Manager, Madras Railway

[No. 120.] Madras Railway, Locomotive Department,

DEAR SIR, Engineer's Office, Madras, 21st December 1860.

With reference to the subject of the training of engine-drivers in this Department, I beg to forward you the accompanying statements numbered 1, 2, and 3, showing the progress made by men and apprentices entertained in this country.

2. I have thought it as well to report not only on the training of engine-drivers, but upon the whole system obtaining in this Department for the training of men for that description of work, for the carrying on of which ready-made artificers or mechanics cannot be procured in this country, and the amount of success which has attended the experiment is set forth generally in the statements herewith forwarded.

3. You will see that we have, in all, a considerable number of men trained, and in the course of training, for the various classes of work, but this number represents only a portion of the men we have had under training; a large proportion of the men we have had on trial became disgusted with the laborious and dirty nature of the work (it being of a character so much against the prejudices of men born in this country and East Indians generally), and they leave the service, whilst others are discharged for incompetency, irregular habits, or other faults, which would preclude them from attaining posts of responsibility or trust, whilst other really good and useful men, trained in our shops, get better appointments elsewhere, and quit this service to take them up.

4. The promotion of K. Smith and J. Scott to engine-drivers, under an agreement, has had, however, a most marked effect in enabling me to keep up my complement of firemen. Men were constantly dropping off before that time, despairing probably of ever bettering their position, or wanting the necessary perseverance and patience that would, in the course of time, have made them drivers; but the emulation aroused in the minds of the firemen generally

by the success of Smith and Scott, whilst it bound the men then firing to the service, has made the post of a fireman an object of ambition, as a stepping-stone to that of an engine-man, and thus induced a better class of men to come forward than I formerly was in the habit of meeting with.

5. The success of this step, as regards the training of engine-drivers, leads me to think that it would be equally advantageous to adopt the same system with regard to fitters and erectors, boiler-smiths, and other mechanics, as the men would be bound to the Company during a certain number of years, whilst the emulation would undoubtedly be productive of beneficial results, in inducing greater efforts from others in the course of training.

6. I would now beg to call your attention to the three Statements appended hereto. In No. 1 (Statement of Progress of Firemen) it is shown that 22 men are in the course of training for drivers, of whom 5 men are now competent to drive engines; that 4 men will be competent in six months; and the next 11 will, I think, be all competent to drive in from one year to two years time; the remaining 2 men will be put in the shops as assistant fitters, as they are not likely to make engine-drivers. I hope that we may be enabled to work the South-west line, when opened throughout, without any further supply of engine-men from England, unless some unforeseen contingency should occur, or the requirements be larger than I anticipate.

7. In the above statement I have shown only European and East Indian firemen, because I fear that we cannot hope to make Native drivers for many years to come; I have one Native, by name Gunnagee Row, whom I think competent to drive a locomotive, but his own want of self-reliance precludes him from being entrusted with the charge of one. I have many other Native firemen quite competent to drive so far as the mechanical working of a locomotive engine is concerned, but I should hesitate to trust any of them with the responsibility attaching to the duties of drivers (especially on a single line of railway, where extra caution and forethought is necessary), because I do not think that these men possess those qualities which are frequently called for in cases of emergency, where judgment and presence of mind are specially requisite qualifications.

8. The training of Europeans and East Indians (engaged in this country) for engine-drivers is fairly started, and from the progress already made, I have no doubt of the future success of the system.

9. Statement No. 2 exhibits the progress of engine fitters and erectors, boiler-smiths, carriage fitters, &c. There are 16 engine fitters, many of whom joined the service shortly after the opening of our workshops: amongst these men some are really excellent hands, and are quite competent to take entire charge of the erection and repairs of engines. If the services of some of these men are secured to the Company, under agreement, I am of opinion that there will in future be no necessity for any more mechanics of this class being sent out from England.

10. There are 5 boiler-smiths who have been trained in our shops, all good useful men, one of whom especially, J. Wrightman, an East Indian, is a first-rate workman, quite competent to any boiler work, and fit to have charge of boiler repairs at an out-station.

11. There are 16 carriage fitters and 4 carriage examiners, all of whom were trained up in our shops; they are generally very useful good workmen, but the nature of their work is much more simple than that of engine fitters, and there is no difficulty in obtaining and training men for this duty in India.

12. Statement No. 3 exhibits the progress of apprentices. These are young lads who are taken into the service in India, at ages varying from 14 to 17 years; they number at present 26 in all, 17 of whom are in the locomotive workshops at Royapooram, and 9 at Perambore. They are instructed in every branch of locomotive work, in such proportion as may be required for each trade respectively. For instance:—

About 40 per cent. of the total number are brought up as fitters and erectors.
About 20 per cent. as turners and machinemen.
About 20 per cent. as boiler-smiths.
About 10 per cent. as coppersmiths.
About 10 per cent. as moulders.

13. The progress of many of these young lads, as set forth in the statement, has been alike creditable to themselves and profitable to the Company; some of them have been a considerable time in the service, and have grown up useful and active young men, and the apprentice system has on the whole been attended with marked success.

14. The total number of Europeans and East Indians (engaged in this country) at present, trained and under training for service in this Department, are as shown in detail in the statements referred to, as follows:—

For Engine-drivers - - - -	22
„ Engine Fitters, Boiler-smiths, &c. - -	21
„ Carriage Fitters and Examiners - -	20
„ Apprentices to various Trades - - -	26
Total - -	89 Men and Lads.

15. In addition to the men shown in the above statements, I have a large number of Natives employed to each branch of locomotive work:—

40 Firemen. 8 Engine Fitters. 7 Carriage Fitters. 2 Lathemen or Turners. 6 Machinemen. 4 Boiler-smiths. 7 Moulders. 1 Coppersmith.	These are the best of our Native workmen. We have numerous other Natives assisting in these trades, many of whom will in the course of time become tradesmen.

16. We have also two Native stationary engine-men, one at Royapooram and one at Perambore, in charge of our stationary engines; and Native labour is used throughout in this Department, to as great an extent as it can properly be made use of to save the greater expense of European or imported labour.

17. The Europeans and East Indians treated of in this Report are, men in training for such work and such positions as Natives generally are least fitted to fill.

18. I have other Europeans and East Indians in the Department, employed on an inferior class of labour, whom I have not included in my Report, because in the course of their time their posts will generally be filled up by Natives, at present their assistants.

19. Reviewing the whole subject of the training of men and lads as drivers and mechanics, I am of opinion that this Department of the Madras Railway will, in future, be almost independent of labour of this kind from England, and that India must become the nursery for our future requirements.

Yours faithfully,
(Signed) W. B. WRIGHT,
Locomotive Superintendent.

No. 5.

COPY of PUBLIC WORKS DESPATCH to the Government of India, No. 53, dated 24th July 1860.

1. In acknowledging the receipt of your Railway Letter, No. 16, of 29th March last, I need say little more at present than that Her Majesty's Government fully recognize the necessity of constructing, as early as possible, lines of road to serve as feeders to railways advancing towards completion; since, until this is done, the resources of the districts bordering on the railways can be only very partially developed, and the capital invested in the latter must remain comparatively unprofitable. I observe, with satisfaction, how much the present Lieutenant Governor of Bengal has, by judicious arrangements, been able to effect towards the construction of district railway feeders, and I join in the hope that your improved financial position will soon permit you to provide funds for such more extensive or more costly feeders as may be accepted as imperial lines.

2. I await with interest the result of the trial which you propose to make, of a cheap description of tram-road on some short feeder of considerable traffic.

(Signed) C. WOOD.

LONDON:
Printed by GEORGE E. EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1861-62.

BY JULAND DANVERS, ESQ.,
GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
FOR HER MAJESTY'S STATIONERY OFFICE.

1862.

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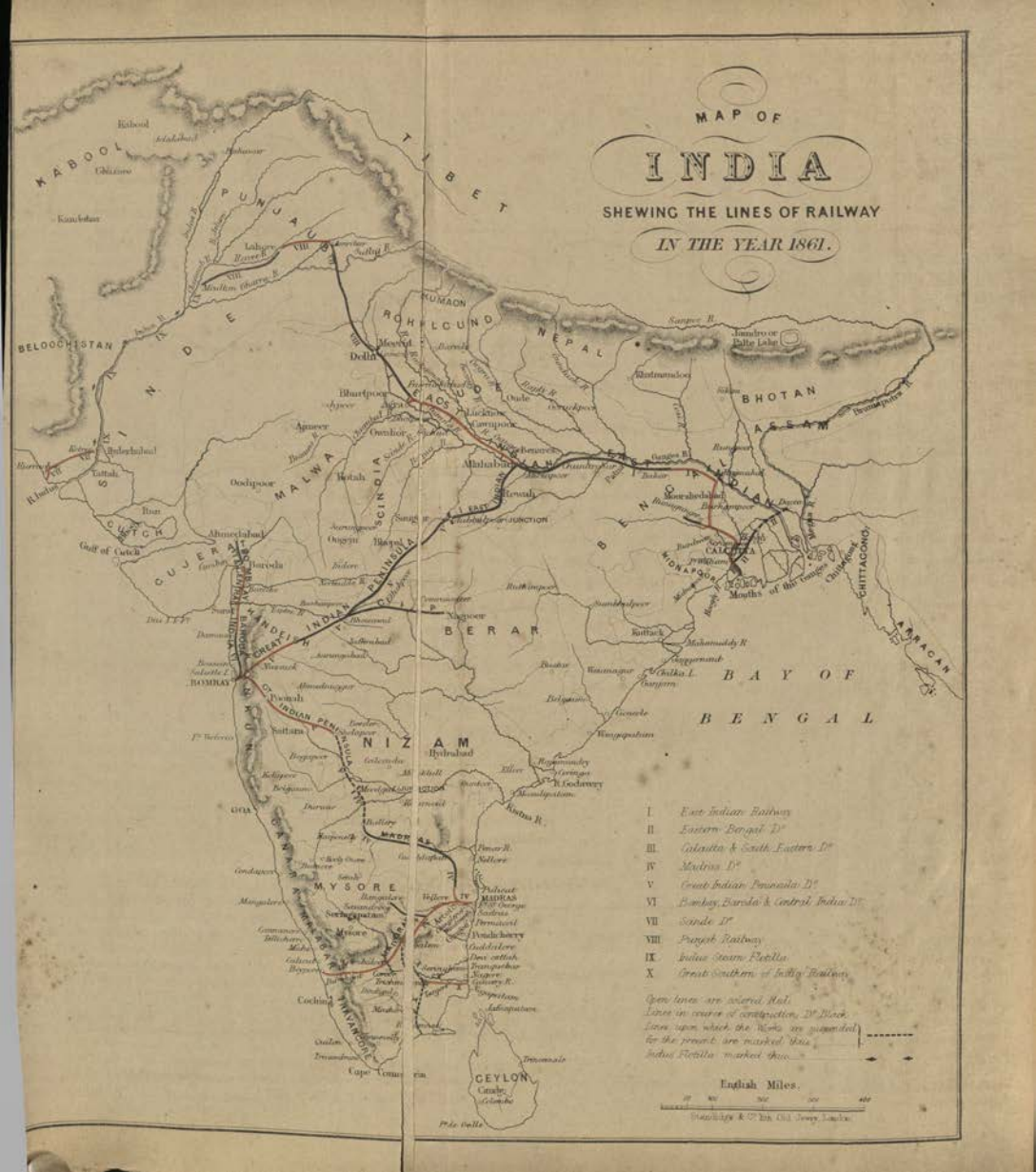
MAP OF
INDIA
SHEWING THE LINES OF RAILWAY
IN THE YEAR 1861.
I. East Indian Railway
II. Eastern Bengal D°
III. Calcutta & South Eastern D°
IV Madras D°
V Great Indian Peninsula D°
VI Bombay Baroda & Central India D°
VII Sindh D°
VIII Punjab Railway
IX Indus Steam Flotilla
X Great Southern of India Railway
Open lines are colored Red.
Lines in course of construction, D° Black.
Lines upon which the Works are suspended
for the present are marked thus
Indus Flotilla marked thus
English Miles.
Published by W. H. Allen & Co. 13 Waterloo Place, London.
BELOOCHISTAN
SINDE
PUNJAUB
TIBET
NEPAL
BHOTAN
ASSAM
BENGAL
BAY OF
BENGAL
NIZAM
Hyderabad
MYSORE
CEYLON
Colombo
Calcutta
Bombay
Madras
Delhi
Agra
Allahabad
Benares
Lucknow
Cawnpore
Meerut
Umballa
Lahore
Multan
Kurrachee
Hyderabad
Jubbulpore
Nagpore
Kamptee
Bhurtpore
Ajmere
Oodeypore
Ahmedabad
Baroda
Surat
Poona
Sattara
Belgaum
Goa
Bangalore
Seringapatam
Mysore
Cochin
Travancore
Cape Comorin
Madras
Pondicherry
Negapatam
Trichinopoly
Tanjore
Madura
Tuticorin
Palamcottah
Trincomale
Point de Galle
Gulf of Cutch
CUTCH
GUJERAT
MALWA
SCINDIA
RAJPOOTANA
ROHILCUND
DOAB
BERAR
KHANDEISH
CANARA
MALABAR
COROMANDEL
CIRCARS
GOLCONDA
CARNATIC
KUMAON
SIRMOOR
Kumaon
Sutlej R.
Jumna R.
Ganges R.
Indus R.
Godavery R.
Kistna R.
Cauvery R.
Nerbudda R.
Tapty R.
Mahanuddy R.
Irrawaddy R.
Sangor R.
Brahmapoutra R.
Chittagong
Arracan
Moulmein
Rangoon
Prome
Ava
Mandalay
Bhamo
Kathmandoo
Jumbo or Palte Lake
Mouths of the Ganges

REPORT.

To the Right Honourable Sir CHARLES WOOD, Bart., G.C.B., M.P.

SIR, India Office, May 1862.

I HAVE the honor to report that the progress in the works on the Railways in India has been steadily continued during the past year, ending the 31st December 1861. An expenditure of about seven millions sterling (7,000,000*l.*) has been incurred, and 760 miles of new line have been opened for traffic.

2. The following table shews by which Companies the new lines have been opened; also the whole extent now completed by each Company, and the length remaining to be finished :— Open lines.

Railway.	Total Length.	Length opened during 1861.	Total Length opened on 1 January 1862.	Length remaining to be finished, and probable Extent in each Year.				
				1862.	1863.	1864.	1865 and subsequently.	Total.
	Miles.					Jubbulpore Line.		
East Indian	1,364	183	563	496	80	100	125	801
Great Indian Peninsula	1,266	140⅓	437	219	120	337	153	829
Madras	850	161¾	298¾	150	207¼	135	59	551¼
Bombay and Baroda	310	96½	132½	117½	60	—	—	177½
Scinde	114	114	114	—	—	—	—	—
Punjab, 1st	252	—	—	45	50	157	—	252
„ 2d	280	—	—	—	—	—	280	280
Eastern Bengal	110	—	—	110	—	—	—	110
Great Southern	78½	48	48	30½	—	—	—	30½
Calcutta and South Eastern	29	16	16	13	—	—	—	13
Total	4,653½	759¾	1,609¼	1,181½	517¼	729	617	3,044¼

3. It will be remembered that the works on three sections of railway, which had been sanctioned, were suspended; viz., the branch of the East Indian Railway from Allahabad to Jubbulpore, the extension of the Punjab line from Lahore to Delhi, and the section between Sholapore and Bellary on the Bombay and Madras line.

4. Arrangements have recently been made with the East Indian Railway Company, who have funds for the purpose, to commence operations on the first of these lines, and the Punjab Railway Company have been authorized to take measures for issuing shares to the extent of two millions and a half (2,500,000*l.*) for the second, and to raise such amount at once as shall be sufficient to allow the more formidable works, such as bridges, to be commenced this year.

5. Advantage has been taken of the suspension of the last section, half of which appertains to the Great Indian Peninsula and half to the Madras Company, to make a more extended examination of the country through which the line passes, for the purpose of ascertaining whether a more advantageous route than that originally decided upon may not be found.

6. The approaching completion of the main lines has drawn the attention of Government and of the public to various schemes which, either directly or indirectly, should prove valuable auxiliaries to the railways. The first of these is a system

of cross-roads to connect the railway stations with the existing high roads of the country. This work has been vigorously undertaken by the local authorities in various districts. The Home Government has also recently sanctioned the execution, by the direct agency of local officers, of a light railway from the Iron Works on the Kumaon Hills to Khoorja in the Dooab. It was mentioned in a former report that Mr. Hardy Wells had been deputed to examine and report upon the subject, and this line is one of a system of railway and road communication in the provinces of Rohilund and Oude submitted by him to the Government of India.

7. The other projects have been taken up by persons of enterprise in this country; and have been introduced under the names of the "Indian Carrying Company," the "Indian Tramway Company," and the "Branch Railway Company." The "East Indian Cotton" and the "Bombay Land Reclamation" Companies are associations which will also have a very beneficial effect upon some of the railways.

hipment of laterials.

8. Some idea of the work done in this country during the past year may be formed by the following table, which exhibits the amount and value of materials sent to India for the railways during that period, and the number of ships employed in the service:—

Railway Company.	Number of Ships.	Tons.	Value.
			£
East Indian	109	64,465	653,591
Great Indian Peninsula	81	36,225	293,581
Madras	72	39,230	261,415
Bombay and Baroda	45	10,327	114,555
Scinde	24	1,842	3,573
Punjaub		13,696	168,717
Indus Flotilla		168	5,743
Eastern Bengal	54	10,342	120,586
Great Southern	6	4,797	19,665
Calcutta and South-Eastern	16	1,529	28,017
Total	407	182,621	1,669,443

ormer Consign-ents and their lue.

9. This, added to the consignments of former years, makes a total of 2,459,928 tons, which had, up to the 31st December last, been despatched to India by the railway companies. Three thousand and twelve (3,012) ships were employed on this service, of which thirty-nine (39) have been lost.

10. The value of the materials sent out was about 12,000,000*l.*, and the amount paid for insurance about 318,756*l.*, being on an average 2*l.* 12*s.* per cent. The total amount of losses which have been sustained in the transport of these materials is about 250,000*l.*, being less than two and a quarter per cent. on the value of the materials despatched. The following are the details:—

Companies.	Total Value of Goods despatched.	Number of Ships employed.	Number of Ships lost.	Value of Goods lost.	Amount paid for Insurance.
	£			£	£
East Indian	4,651,465	942	9	99,698	125,322
Great Indian Peninsula	2,404,150	790	8	33,943	34,862
Madras	2,148,901	520	4	28,997	54,074
Bombay, Baroda, and Central India	1,050,653	296	6	37,548	31,542
Scinde	487,708	186	6	16,195	23,519
Punjaub	448,656			20,749	22,017
Indus Flotilla	72,846			5,270	2,774
Eastern Bengal	516,640	168	3	5,260	13,000*
Great Southern of India	202,293	43	1	6,484	8,556
Calcutta and South Eastern	118,107	67	2	433	3,090
Total	12,101,419	3,012	39	254,577	318,756

* Estimated.

11. The losses were in each case fully covered. But, besides recovering from the underwriters 250,000*l.* for the value of the materials lost, the Companies also received considerable sums for general averages, so that the difference between the aggregate amount paid for premiums on insurance and the amount of losses was very small.

12. On the 1st January 1861 the number of proprietors in the Indian railways was:— Number of Proprietors.

17,118, and the paid-up capital was 25,887,050*l.*

The year before it was 15,224, and the paid-up capital was 22,920,000*l.*

It will be seen by the subjoined statements that during the past year the shareholders have increased to 19,469, and the share capital to 31,308,909*l.*, in addition to which 11,756,249*l.* is held in debentures by 6,691 persons. These facts show that the Indian railway interest in this country has become a very important one.

NUMBER of Proprietors and Debenture Holders on 31st December 1861.

Railway Company.	Number of Shareholders holding Shares of the value of 1,000*l.* and upwards.	Number of Shareholders holding Shares of less than 1,000*l.* value.	Total Number of Shareholders in England.	Total Number of Shareholders registered in India.	Number of Native Shareholders registered in India.	Number of Debenture Holders.	Total Number of Proprietors.
East Indian	3,034	4,113	7,147	67	67	3,947	11,161
Great Indian Peninsula	1,926	2,800	4,726	234	156	634	5,594
Madras	1,116	1,303	2,419	No register is kept at Madras, but there are 10 natives of India holding Stock.		1,025	3,444
Scinde	373	478	851	14	2	372	1,237
Punjaub	442	513	955	18	2	—	973
Indus Flotilla	89	228	317	1	None	82	400
Bombay, Baroda, and Central India.	507	875	1,382	88	—	386	1,856
Eastern Bengal	248	332	580	—	—	87	667
Great Southern of India	125	143	268	24	12	85	377
Calcutta and South Eastern	70	218	288	91	58	73	452
Total	7,930	11,003	18,933	536	297	6,691	26,160

13. According to the returns received from India, the number of persons employed in the open lines on the 30th October last, was as follows. It will be seen that out of 34,329 employed, 32,148 are natives of the country. Persons employed on open lines.

STATEMENT showing the NUMBER of Persons employed on each opened Railway in India, on the 1st October 1861.*

Name of Company.	Secretary's Department.			Locomotive Department.			Engineers' Department.			Traffic Department.			General Store Department.			Total Number employed.	Total Natives.	Total Europeans.	Number of Miles open.
	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.	Europeans.	Natives.	Total.				
East Indian (Bengal Division)	7	22	29	203	718	921	70	5,297	5,367	102	2,320	2,422	66	145	211	3,950	8,502	448	248
Do. (North-West Provinces)	19	104	123	369	1,209	1,578	47	1,111	1,158	28	398	426	6	323	329	3,614	3,145	469	214
Total	26	126	152	572	1,927	2,499	117	6,408	6,525	130	2,718	2,848	72	468	540	12,564	11,647	917	462
Madras (South-west Line and North-west Line)	20	89	109	279	1,766	2,045	32	1,999	2,031	80	786	866	20	81	101	5,152	4,721	431	284
Great Indian Peninsula	6	117	123	173	2,049	2,222	113	216	331	106	1,879	1,985	11	339	350	5,011	4,600	411	437
Bombay, Baroda, and Central India	13	32	45	28	135	163	186	6,600	6,786	26	332	358	3	7	10	7,362	7,106	256	132½
Scinde	9	7	16	56	320	385	52	3,395	3,447	11	109	120	3	12	15	3,983	3,852	131	105
Great Southern of India	Particulars not given.															287	222	35	14½
Total	74	371	445	1,108	6,206	7,314	502	18,618	19,120	353	5,824	6,177	109	907	1,016	34,329	32,148	2,181	1,414½

* Amongst "Europeans" are sometimes included those of European extraction.

14. It will be observed with satisfaction that the Europeans amount to only six per cent. of the whole. The average number of natives employed on each mile was 22·7; of Europeans, 1·5. The financial success of these undertakings will depend in a great measure on the cost of the permanent establishments which it may be found requisite to maintain for their efficient working. That European supervision will be necessary cannot be doubted; but that much of the mechanical skill and sedentary work, and all the common labour bestowed upon the works, should be obtained in the country, is equally obvious. The desire among the heads of departments certainly seems to be, to employ the natives as much as possible; and several of them have made very creditable exertions to train and qualify natives for duties to which they were strangers. It appears by an official document connected with the Great Indian Peninsula Railway, that on the 31st March last, out of 1,122 persons employed as artizans in the locomotive and carriage departments of that railway, 1,066 were trained in India, and 56 were engaged in England. Of the 1,066, 82 were Europeans, 24 Eurasians, and 960 Natives. Mr. Stokes also, the Locomotive Superintendent of the East Indian Railway, expresses his opinion, that "after a sufficient staff has been sent out "from England for the first two or three years working of a new line of railway "in India, the resources of the country may well be depended upon for securing "an abundant supply of enginemen, if a practical system of instruction be "adopted."

ACCIDENTS.

15. The following statements received from the Government of India relate to the accidents which occurred during the year 1860. The results cannot but be regarded as satisfactory, as far as passengers are concerned.

RETURN No. 1.

NUMBER of Persons killed and injured from all Causes on Indian Railways during 1860.

	East Indian Railway.				Bombay, Great India Peninsula Railway.		Madras Railway.		Bombay, Baroda, and Central India Railway.	
	Bengal Division.		North-West Provinces Division.							
PASSENGERS.	Killed.	Injured.	Killed.	Injured	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers killed or injured from Causes beyond their own control	–	3	–	–	–	1	–	–	–	–
Ditto killed or injured owing to their own misconduct or want of caution	2	–	2	–	–	1	–	–	–	–
Total Passengers killed or injured	2	3	2	–	–	2	–	–	–	–
PEOPLE CONNECTED WITH THE RAILWAY.										
Servants of the Company or of Contractors killed or injured from Causes beyond their own control	19	19	1	–	2	3	1	–	–	1
Ditto owing to their own misconduct or want of caution	8	2	–	1	10	10	1	–	–	–
Total persons connected with the railway killed or injured	27	21	1	1	12	13	2	–	–	1
OTHERS, NEITHER PASSENGERS NOR RAILWAY COMPANY'S SERVANTS.										
Trespassers	5	3	–	–	2	1	–	–	–	–
Suicide	–	–	–	–	–	–	–	–	–	–
Total Persons unconnected with the Railway	5	3	–	–	2	1	–	–	–	–
Grand Total, killed or injured	34	27	3	1	14	16	2	–	–	1
Mean length of Railway open during year	Miles 183·75		Miles 123		Miles 297⅓		Miles 137		Miles 35¾	
Number of Passengers carried	15,67,200		2,19,708		18,83,724		9,85,010		99,598	

Return No. 2.

Statement of Accidents upon Railways in India during 1860, showing the Nature of Accidents and Number of Persons killed or injured thereby.

Nature of Accidents.	No. of Accidents.	Passengers or Persons unconnected with the Lines.		Causes of Accidents.											
					Causes arising from Rolling Stock or Road.				Causes attributable to the Management.						
					Neglect of		Defective condition of		Defective Discipline.						
									Unpunctuality.						
		Killed.	Injured.	Purely Accidental.	Machinery of Train.	Road.	Machinery of Train.	Road.	Accidental.	Defective or inadequately enforced System.	Insufficient or inadequately enforced Regulations.	Defective System for recurring intervals between Trains.	Negligence of Servants.	Improper interference by Persons not under the control of the Company.	Malicious attempt of Persons not under the control of the Company.
East Indian Railway, Bengal Division.															
Accidents from Engines or Carriages leaving the rails	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents from Collisions	2	–	3	–	–	–	–	–	–	–	–	–	2	–	–
Accidents from Trains running through facing points	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents from persons in Train being struck against works adjacent to the line	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents, Miscellaneous	27	2	–	22	–	–	1	–	–	–	–	–	3	–	1
Total	29	2	3	22	–	–	1	–	–	–	–	–	5	–	1
East Indian Railway, North-West Provinces.															
Accidents from Engines or Carriages leaving the rails	4	–	–	–	–	–	–	2	–	–	–	–	2	–	–
Accidents from Collisions	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–
Accidents from Trains running through facing points	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents from Persons in Train being struck against works adjacent to the line	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents, Miscellaneous	7	–	–	6	–	–	1	–	–	–	–	–	–	–	–
Total	12	–	–	7	–	–	1	2	–	–	–	–	2	–	–
Madras Railway.															
Accidents from Engines or Carriages leaving the rails	2	–	–	–	–	–	–	2	–	–	–	–	–	–	–
Accidents from Collisions	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–
Accidents from Trains running through facing points	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents from Persons in Train being struck against works adjacent to the line	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents, Miscellaneous	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–
Total	4	–	–	1	–	–	–	3	–	–	–	–	–	–	–
Great Indian Peninsula Railway.															
Accidents from Engines or Carriages leaving the rails	11	–	1	–	–	–	–	–	–	–	–	–	11	–	–
Accidents from Collisions	10	–	–	10	–	–	–	–	–	–	–	–	–	–	–
Accidents from Trains running through facing points	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents from Persons in Train being struck against works adjacent to the line	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Accidents, Miscellaneous	31	2	2	31	–	–	–	–	–	–	–	–	–	–	–
Total	52	2	3	41	–	–	–	–	–	–	–	–	11	–	–
Bombay, Baroda, and Central India Railway.															
Accidents from persons in Trains being struck against works adjacent to the line	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–
Total	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–

RETURN No. 3.

STATEMENT showing the Number of Passengers carried, and those killed or injured from Causes beyond their own control.

1860.	Total Number of Passengers carried.	Total Number		Proportion per Million	
		Killed.	Injured.	Killed.	Injured.
1. East Indian Railway, Bengal Division	15,67,200	—	3	—	1·91
2. Ditto N.W.P. Division	2,19,708	—	—	—	·00
3. Madras Railway	9,85,010	—	—	—	·00
4. Great Indian Peninsula Railway	13,83,724	—	1	—	·72
5. Bombay, Baroda, and Central India	99,598	—	—	—	·00
Total	42,55,240	—	4	—	·94
Average on Railways in Great Britain	139,000,000	—	—	15	3·19

FINANCE.

16. The financial position of the Companies is more satisfactory than could have been expected at the commencement of the year. It was at that time apprehended that the Companies themselves would be unable to raise the necessary funds for their operations during the year, and power was given to the Secretary of State in Council by Parliament to raise money in this country to meet any deficiency. Certain sections of line were also suspended in order that the expenditure might be so limited as to afford better facilities for raising the amount absolutely required to prevent loss and delay on lines in course of execution. After a time, however, the state of the money market improved; and the growing confidence of the public in the resources of India, consequent on the actual improvement in its finances, was practically demonstrated by the steady demand which arose for Indian securities, including railway stock and debentures. Between the 1st May and the end of December a sum of 4,648,641*l.* had been raised by the Companies, and this has been since increased by upwards of 4,000,000*l.* The Government were thus relieved from the necessity of raising any money on their behalf.

17. While the sum thus raised by the Companies has been more, the expenditure has been less than was expected. It was calculated that 6,000,000*l.* would be spent in India, and 2,000,000*l.* in England. In India the actual expenditure has been about 5,150,000*l.*: in England 1,700,000*l.*

18. The following statement shows the amount raised and expended by each railway company during the official year 1861-62:—

Statement No. 1.

Name of Company.	Amount standing to the Credit of the Company on 30th April 1861.	Amount advanced to Railway Company on 30th April 1861.	Amount raised between 1st May 1861 and 30th April 1862.		Amount expended by Railway Companies.				Total Raised during Year ending 30th April 1862.	Total Expended during Year ending 30th April 1862.
			By Shares.	By Debentures.	In England, between 1st May 1861 and 30th April 1862.	In India.				
						Date.	Amount.	Estimated Expenditure between the before-mentioned date and 30th April 1862.		
	£	£	£	£	£		£	£	£	£
East Indian - - - -	297,398	—	1,678,385	1,744,889	592,928	28 Feb. 1862	1,697,643	310,000	3,423,274	2,600,571
Great Indian Peninsula - -	356,990	—	1,441,075	988,800	316,661	„	1,036,220	250,000	2,429,875	1,602,881
Madras - - - - -	—	185,964	22,310	1,157,100	211,807	„	377,972	85,000	1,179,410	674,779
Bombay, Baroda, and Central India	—	371,267	152,734	357,290	110,287	„	437,568	90,000	510,024	637,855
Scinde - - - - -	—	26,225	136,780	—	39,332	„	109,886	20,000	136,780	169,218
Punjab - - - - -	337,915	—	126,770	—	90,038	31 Jan. „	132,928	90,000	126,770	312,966
Indus Flotilla - - -	12,285	—	—	79,500	10,124	28 Feb. „	27,245	10,000	79,500	47,369
Eastern Bengal - - -	98,052	—	182,407	398,700	193,405	„	177,245	70,000	581,107	440,650
Great Southern of India - -	—	25,547	4,819	106,500	10,960	„	88,949	15,000	111,319	114,909
Calcutta and South-Eastern -	—	3,026	558	90,000	30,548	„	64,437	20,000	90,558	114,985
Total - -	1,102,640	612,029	3,745,838	4,922,779	1,606,090	—	4,150,093	960,000	8,668,617	6,716,183
	Net to Credit of Companies	490,611								

The probable expenditure by the Railway Companies for the year 1862–3 may be taken to be 7,100,000*l.* It will be observed by the following statement, that towards meeting this outlay there was a balance to the credit of the Companies on the 1st May of about 2,400,000*l.* There should be a balance of about 1,000,000*l.* on the 1st May 1863. To provide the whole amount thus required, about 6,000,000*l.* will therefore have to be raised during the present year. The following table shows in detail the proportions in which this sum ought to be raised by each of the respective Companies :—

STATEMENT No. 2.

Companies.	Estimated Expenditure for the Year 1862–3.			Sum standing to the Credit or Debit of the Companies on the 1st May 1862.	Sums to be raised by Companies.	Estimated Balance to Credit of Companies 1st May 1863.
	In England.	In India.	Total.			
	£	£	£	£	£	£
East Indian - - - - -	414,550	2,500,000	2,914,550	1,120,101	†2,169,750	375,449
Great Indian Peninsula - - -	265,000	1,000,000	1,265,000	1,183,984	‡310,920	240,003
Madras - - - - -	594,300	800,000	1,394,300	318,667	1,180,000	104,967
Scinde - - - - -	20,000	60,000	80,000	*58,663	150,000	6,865
Punjab - - - - -	62,000	240,000	302,000	151,719	†298,250	148,000
,, and Delhi - - - -	50,000	50,000	100,000	—	150,000	50,000
Indus Flotilla - - - -	10,500	25,000	35,500	44,416	12,528	24,500
Bombay and Baroda - - -	106,000	600,000	706,000	*499,098	1,300,000	94,674
Eastern Bengal - - - -	50,000	204,000	254,000	238,509	55,560	40,095
Calcutta and South-Eastern - -	10,000	10,000	20,000	*27,453	50,000	2,547
Great Southern of India - - -	10,000	23,000	33,000	*29,137	62,000	613
Total - - -	1,592,350	5,512,000	7,104,350	Cr. 3,057,396 Dr. 614,351 Net Cr. 2,443,045	5,739,008	1,037,113

* These sums are to the debit of the Companies.
† The greater portion of these sums can be raised by calls on shares issued.
‡ The whole of this sum can be raised by calls on shares issued.

20. It will have been observed, that of the sum of 8,668,617*l.* raised during the past year, 3,745,838*l.* was by shares, and 4,922,779*l.* by debentures.

At the beginning of the official year—

The share capital was - - -	£27,559,688
The debentures - - - -	6,835,770
Total - -	£34,395,458

The whole amount of capital now issued accordingly reaches 43,064,890*l.*,

consisting of shares or stock - -	£31,308,641
,, debentures, convertible into shares	6,922,949
,, debentures, not convertible -	4,833,300

21. The following statement is similar to one in the last report, and shows the total amount of capital which it is now estimated will be required for the construction of each undertaking (the lines being made single, with a few exceptions), the amount which had received the Government guarantee on the 30th April 1862, the amount raised by each Company, the proportion of stock and debenture capital, and the sums expended. The estimated amount of capital varies in one or two cases from the estimates before given. The alterations are founded upon fresh information and calculations.

22. By this it will be seen that works which will

cost about - -	£57,500,000 have been sanctioned;
that a sum of - -	*£53,500,000 has been guaranteed;
that of this - -	£43,000,000 has been raised;
that of this last, -	£40,600,000 has been expended.

* The remainder will be guaranteed as required.

Statement No. 3.

Railway Company.	Amount estimated to be required for each Undertaking as now sanctioned.	Amount authorized to be raised with the Government Guarantee on the 1st May.				Amount raised in England to 30th April 1862.			Amount raised in India to Date of latest Advices.	Total raised to 30th April 1862.	Total Amount advanced for Expenditure to 30th April 1862 (partly estimated.)
		By Share Capital.	By Debentures.		Total.	By Shares.	By Debentures.				
			Convertible into Shares.	Inconvertible.			Convertible.	Inconvertible.			
East Indian:	£	£	£	£	£	£	£	£	£	£	£
Main Line - - -	20,750,000	14,353,141	3,396,859	3,000,000	20,750,000	10,389,515	3,396,859	3,000,000	239,346	19,485,490	18,365,389
Jubbulpore Line - -	2,250,000	2,000,000	—	—	2,000,000	1,952,135	—	—	7,635		
Great Indian Peninsula - -	12,000,000	9,000,000	—	2,000,000	11,000,000	7,575,159	—	1,500,000	448,740	9,523,899	8,339,915
Madras:											
Main Line - - -	8,500,000	6,000,000	1,666,700	333,300	8,000,000	3,968,147	1,666,700	333,300	—	5,968,147	5,649,480
Bellary Line - - -											
Scinde - - - -	1,600,000	1,169,300	330,700	—	1,500,000	1,114,615	330,700	—	22,138	1,467,453	1,530,588
Punjab:											
Moultan to Umritser - -	2,500,000	1,500,000	—	—	1,500,000	1,284,089	—	—	5,819	1,289,908	1,138,189
Delhi to Lahore - -	3,000,000	2,500,000	—	—	2,500,000	—	—	—	—	—	—
Indus Flotilla - - -	400,000	295,000	83,000	—	378,000	249,755	83,000	—	—	332,755	288,339
Bombay, Baroda, and Central India	4,000,000	2,650,000	850,000	—	3,500,000	1,862,079	789,690	—	21,662	2,673,431	3,172,529
Eastern Bengal - - -	1,500,000	1,000,000	400,000	—	1,400,000	990,223	400,000	—	9,449	1,399,672	1,161,163
Calcutta and South-Eastern -	380,000	250,000	90,000	—	340,000	230,338	90,000	—	19,258	339,596	367,049
Great Southern of India - -	640,000	418,539	166,000	—	584,539	417,319	166,000	—	1,220	584,539	613,676
Total - - -	57,520,000	41,135,980	6,983,259	5,333,300	53,452,539	30,533,374	6,922,949	4,833,300	775,267	43,064,890	40,626,317

23. In giving the sum of 57,520,000*l.* as the amount estimated to be required to complete these undertakings, I would wish to guard myself against encouraging the expectation that this sum may not be exceeded. Past experience would unfortunately lead to the impression that very likely it will. A double line of rails will, I believe, in some places be necessary to meet the requirements of the traffic, and the same reason will probably be brought forward to justify the purchase of additional locomotive power and rolling stock. It is true that these causes for increased capital may not be considered unsatisfactory, for such outlay ought at once to produce a corresponding increase in the receipts. There are, however, no data upon which to found an exact calculation. The average cost per mile of each undertaking, according to the present estimates, will be seen in the following statement.

24. The average cost per mile, upon the whole, is about 12,360*l.*; but before the railways are completely finished, including a small allowance of double lines, 13,000*l.* will probably be nearer the mark, which would make the total capital required upwards of 60,000,000*l.*

Railway.	Length.	Total Cost.	Average Cost per Mile.
		£	£
East Indian	1,364	23,000,000	16,862
Great Indian Peninsula	1,266	12,000,000	9,476
Madras	850	8,500,000	10,000
Bombay and Baroda	310	4,000,000	12,900
Sinde	114	1,600,000	14,000
Punjaub	252	2,500,000	10,000
Delhi and Punjab	280	3,000,000	10,700
Eastern Bengal	110	1,500,000	13,636
Great Southern	78½	600,000	8,000
Calcutta and South-Eastern	29	380,000	13,450
	4,653½	57,520,000	—
Average costs upon whole system	£12,367 per mile.		

25. We have seen that 40,600,000*l.* has already been spent. We cannot expect that the whole system, even as at present sanctioned, that is, with single lines, will be thoroughly completed for five or six years. The expenditure for the present year will (as before shown) probably be greater than any former or any subsequent year, viz., 7,100,000*l.* This leaves from about 9,000,000*l.* to 12,000,000*l.* for subsequent years, which may be distributed in the following proportions; viz.,

1863–4	£4,500,000
1864–5	2,500,000
1865–6	2,000,000
1866–7	1,000,000
1867–8	500,000
1868–9	500,000

On an average, about a fifth or sixth of these sums will be spent in England.

Guaranteed interest.

26. The following statement shows the amount of guaranteed interest paid to the railway companies to the 31st December last. The sum paid by the railway companies out of their profits towards the liquidation of the same only amounted to about a million and a quarter. It is hardly necessary to repeat that the balance, more than five millions, is recoverable by Government from half the net receipts in excess of 5 per cent.:—

Company.	Interest paid to 31st December 1860.	Interest paid during 1861.			Total Amount of Interest paid to end of 1861.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian - -	2,470,506 8 5	805,843 11 5	9,237 18 2	815,081 9 7	3,285,587 18 0
Great Indian Peninsula -	1,040,356 17 9	314,150 5 10	8,756 9 6	322,906 15 8	1,363,263 13 5
Madras - - - -	667,519 3 1	226,685 3 3	—	226,685 3 3	894,204 6 4
Scinde - - -	134,127 10 5	65,227 15 0	1,029 1 1	66,256 16 1	194,993 19 7
Punjaub - - -	54,192 1 1	46,008 0 9	259 10 1	46,267 10 10	100,459 11 11
Indus Flotilla - -	17,403 4 0	12,718 1 1	—	12,718 1 1	35,511 15 6
Bombay and Baroda -	181,622 11 1	103,265 5 7	1,056 11 5	104,321 17 0	285,944 8 1
Eastern Bengal - -	41,016 11 6	34,434 1 1	277 2 2	34,711 3 3	75,727 14 9
Calcutta and South-Eastern	9,255 0 6	10,793 6 10	595 6 2	11,388 13 0	20,643 13 6
Great Southern - -	11,004 14 3	19,553 12 9	—	19,553 12 9	30,558 7 0
Total - £	*4,627,004 2 6	1,638,679 3 7	21,211 18 7	1,659,891 2 6	6,286,895 4 7

27. The annual amount due from the Government for interest is now upwards of 2,000,000*l.* The annual earnings of the railways for the year ending the 30th June last (the latest date to which the accounts of net receipts have been received) did not amount to a sixth of this sum, but a great portion of the capital to which the guaranteed interest applies is, of course, still altogether unproductive. The lines yielding the above profits do not represent half the capital which has been expended, and the work they are doing is moreover but a fraction of what they will do.

TRAFFIC.

28. The open lines to which the following traffic returns apply, are portions of the East Indian, Great Indian Peninsula, Madras, Bombay and Baroda, and Scinde. Before proceeding to give an account of each in its order, I would beg attention to the interesting diagrams, prepared by Colonel W. E. Baker, now a member of the Indian Council, and formerly consulting engineer to the Government of India in the Railway Department, who has kindly permitted me to append them to this report. They will be found to furnish at a glance the principal points of interest connected with the traffic of the open lines.

EAST INDIAN.

East Indian.

29. Although the traffic returns contained in the following tables apply to 371 miles only, 248 being in the Bengal, and 123 in the North West division, 563 miles of this line were open on the 31st December last, viz., 320½ in the Bengal, and 243¾ in the North West division; since that time an addition has been made to the Bengal line, which now reaches to Monghyr. The distance between this place and Allahabad, where the North West division now begins, is about 332 miles. It is possible that this section may be finished during the present year, but it is doubtful whether one portion, viz., between Benares and Allahabad (72 miles) can possibly be opened till next year, when the whole line to Delhi would also be completed.

30. Notwithstanding the present divided state of the line, the traffic returns exhibit satisfactory results; but the undertaking is not yet in a condition to enable a judgment to be formed of its capabilities or commercial value. The actual cost of the line has been very great, greater than was expected, and the expenditure has been increased by the losses occasioned by the mutiny. The works are, from all accounts, of an excellent character, and the cost of maintaining them, should not be great. The revenue will at any rate not be subjected to the heavy charges which, if the lines had been constructed loosely and cheaply, as in America, would have materially reduced the earnings. There is every reasonable

* It may be observed that this sum varies from that given in the last report. The explanation is, that the sum then given was the amount *due*, but not *actually paid*, to the Companies on the date specified. The sums given above are those paid on the 31st December last, a considerable amount being added a few days afterwards. Future similar statements will be given as the one above.

prospect of a large and increasing traffic, which, if well managed, should yield a fair profit.

31. It will be seen that there has been a continued increase in the total number of passengers, and in the amount of earnings, but that the mileage receipts have not been maintained. This might have been expected, considering the short time that has elapsed since the opening of the extensions. The working expenses have also increased, but the increase is mainly due to the cost of putting good sleepers into a portion of the line where temporary sleepers of an inferior description were originally placed. It is evident, however, that great vigilance and care are requisite to keep down the expenditure.

Statement No. I.

Comparative Statement showing the Number of Passengers conveyed during the Years ending 30th June 1860 and 30th June 1861.

Bengal Division.

Year.	Number of Miles open to which the Traffic applies.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Half-year ending 31st Dec. 1860 -	186*	10,536	35,259	711,099	756,894
„ 30th June 1861 -	248	8,867	34,324	850,362	893,553
	Average.				
Total, year ending 30th June 1861 -	217	19,403	69,583	1,561,461	1,650,447
„ „ 1860 -	166	17,334	69,693	1,440,740	1,527,567
„ „ 1859 -	166	15,106	57,309	1,199,517	1,271,932

* 82 miles opened 15th October 1860, taking the railway to Rajmahal.

North-West Provinces Division.

Year.	Number of Miles open to which the Traffic applies.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Half-year ending 31st Dec. 1860 -	—	1,244	2,488	100,423	104,160
„ 30th June 1861 -	—	1,612	2,384	118,655	122,651
Total year ending 30th June 1861 -	—	2,856	4,872	219,078	226,811
„ 30th June 1860 -	123	2,979	7,433	196,344	206,756

Statement No. II.

Comparative Statement showing the Amount of Receipts from various sources, of Working Expenses, and of the Net Profits, during the Years ending 30th June 1859, 1860, and 1861.

Bengal Division.

Year.	Number of Miles open.	Receipts from Conveyance of				Total Receipts.	Working Expenses.			Net Profits.
		Passengers.	Merchandise.	Minerals.	Miscellaneous.		Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£	£	£
Half-year ending 31st December 1860 -	186	51,944	24,731	38,844	6,348	121,867	50,050	13,007	63,057	58,810
Half-year ending 30th June 1861 - -	248	64,427	56,461	46,680	7,088	174,666	62,475	17,862	80,337	94,329
Whole year ending 30th June 1861 -	217	116,371	81,192	85,504	13,436	297,533	112,525	30,869	143,394	153,139
Whole year ending 30th June 1860 -	166	89,809	133,334		Railway Materials. 16,371	239,516	—	—	106,265	133,251
Whole year ending 30th June 1859 -	166	73,947	92,517		21,525	192,836	—	—	96,184	96,651

Note.—When, in these traffic tables, numbers appear, which are different to those given in the corresponding tables of previous reports, it may be understood that, upon auditing the accounts and comparing them with those of the Railway Companies, mistakes have been corrected.

STATEMENT II.—*continued.*

NORTH-WEST PROVINCES DIVISION.

Year.	Number of Miles open.	Receipts from Conveyance of			Receipts.		Working Expenses.		Net Profits.
		Passengers.	Merchandise.	Miscellaneous.	Total.	Per Mile.	Total.	Per Mile.	
		£	£	£	£	£	£	£	£
Half-year ending 31st December 1860 -		15,823	30,265	1,170	47,258	384	23,412	190	23,847
Half-year ending 30th June 1861 - -		22,800	38,214	2,669	63,683	517	26,089	212	37,594
Whole year ending 30th June 1861 - -		38,623	68,479	3,839	110,941	910	49,501	402	61,441
Whole year ending 30th June 1860 - -	123	28,837	41,541	Railway Materials. 8,915	79,293	—	40,371	—	38,922

STATEMENT No. III.

COMPARATIVE STATEMENT showing the Number of Passengers conveyed per Mile, also the Number of each Class.

BENGAL DIVISION.

Year ending	Total Number of Passengers conveyed per Mile.	Total Number conveyed per Mile.		
		1st Class.	2d Class.	3d Class.
30th June 1859	9,661	106·3	403·5	9,151·5
„ 1860	9,203	104·4	419·8	8,679·1
„ 1861	7,605	89·2	320·7	7,195·1

NORTH-WEST PROVINCES DIVISION.

Year ending	Total Number of Passengers conveyed per Mile.	Total Number conveyed per Mile.		
		1st Class	2d Class.	3d Class.
30th June 1860	1,680·9	24·2	60·4	1,506·2
„ 1861	1,844	23·3	39·6	1,781·1

STATEMENT No. IV.

COMPARATIVE STATEMENT showing the proportion of Working Expenses to Gross Receipts, and the proportion per cent. of Receipts from Passengers and Goods.

BENGAL DIVISION.

Year ending	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
30th June 1859	45·04	35·9	64·0
„ 1860	44·36	37·4	62·5
„ 1861	48·35	39·3	60·7

STATEMENT No. IV.—*continued.*

NORTH-WEST PROVINCES DIVISION.

Year ending	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
30th June 1860	50·91	36·1	63·9
„ 1861	44·61	34·8	65·2

GREAT INDIAN PENINSULA.

Great Indian Peninsula Railway.

32. The length of this railway now open is 437 miles, consisting of 200 in the North East line, 204 in the South East, and 33 of double line common to both.

33. The break at the Ghâts, which separates the Concan from the Deccan, still exists, thereby rendering the lines comparatively useless for traffic from the coast to the interior. Neither economy, simplicity of management, speed, nor any of the advantages, in fact, of railway communication, can be realized so long as this interruption lasts; and no judgment can yet be formed of the traffic which the line will ultimately command, and of the impulse that will be given to trade and agriculture.

34. It is not surprising, under these circumstances, that the results given below do not show a great success. The receipts are, of course, very limited, and the working expenses are necessarily out of proportion to the earnings. The direct cost to which the Company was put during the past year by conveying the traffic across the Ghâts was 45,851*l.*, or nearly 17 per cent. of gross receipts. Other indirect contingent charges will be avoided when the communication is no longer broken. On the South-Eastern line, the evil will, the Company's engineer reports, be remedied in the course of this year, but the line up the Thul Ghât Incline will not be finished till next year. At the same time, or soon after, it is expected that the branch to Nagpore, the great cotton mart of Central India, will be open, and in 1864 the whole line to Jubbulpore will probably be completed.

35. The following statements apply to the year ended the 30th June 1861, during which time the *maximum* length of line open was 340 miles, and the *minimum* 297, the mean length for the whole year being about 320 miles. It will be observed by the 1st Statement, that a 4th class for passengers has been tried, and that a very large increase in the number of passengers was the consequence. It was doubtful, however, whether the experiment was financially successful, and it was discontinued in October:—

STATEMENT No. I.

STATEMENT showing the Number of Passengers conveyed during the Years ending 30th June 1859, 1860, and 1861.

Year.	Number of Miles open.	Number of Passengers.				Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	4th Class (Established only from 15th October.)	
Half-year ending 31st December 1860	Mean length. 279 miles.	9,613	98,567	499,999	223,685	831,864
Half-year ending 30th June 1861	340 „	10,503	84,955	355,127	731,487	1,182,078
Year ending 30th June 1861	320 „	20,121	183,522	855,126	955,172	2,013,942
„ „ 1860	279 „	11,133	166,740	1,116,947		1,294,820
„ „ 1859	194 „	12,938	107,919	1,040,644		1,161,501

Statement No. II.

Statement showing the Amount of Receipts from Passengers and Goods, and of Working Expenses, during the Years 1858-59, 1859-60, and 1860-61.

Year.	Number of Miles open.	Receipts.			Expenses.			Net Receipts.
		Passengers.	Goods.	Total.	Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£
Half-year ending 31st December 1860 - -	279	48,296	46,947	95,243	50,571	9,134	59,705	35,538
Half-year ending 30th June 1861 - - - - -	340	57,311	76,135	133,446	84,471	14,735	99,206	34,241
Year ending 30th June 1861	320	105,607	123,182	228,689	135,042	23,869	158,911	69,779
„ „ 1860	279	72,747	Railway Materials 81,267 / 27,663	181,677	—	—	106,796	74,881
„ „ 1859	194	60,785	57,079 / 29,567	147,431	—	—	65,491	82,940

Statement No. III.

Statement showing the Number of Passengers conveyed per Mile, and in each Class, during each of the following Years.

Year ending	Number of Miles open.	Total Number of Passengers conveyed per Mile.	Number of Passengers conveyed per Mile.			
			1st Class.	2d Class.	3d Class.	4th Class.
30th June 1859 - -	248	5,987	67	556	5,364	—
„ 1860 - -	296 / Mean, 277	4,359	37	561	3,761	—
„ 1861 - -	340 / Mean, 320	6,293	62	573	2,672	2,984

Statement No. IV.

Statement showing the Receipts from each Class of Passengers during the Years specified.

Year.	Receipts.			
	1st Class.	2d Class.	3d Class.	4th Class.
	£	£	£	£
1858–59 -	4,827	8,759	47,198	—
1859–60 -	4,191	11,685	56,769	—
1860–61 -	4,538	12,416	40,042	33,542

Statement No. V.

Statement showing the Proportion per cent. of Working Expenses to Gross Receipts; also the Proportion of Receipts from Passengers and Goods.

Year.	Proportion per cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
1858–59 -	44·1	41·7	58·3
1859–60 -	58·7	40·4	60·6
1860–61 -	69·5	46·2	53·8

MADRAS RAILWAY.

Madras Railway.

36. Two hundred and ninety-nine (299) miles of this Railway were open for traffic on the 1st January, of which one hundred and sixty-one and three-quarters miles (161¾) have been added during the past year, viz., 94 in the Eastern and 40 in the Western Division of the South-West line, and 27 in the North-West line, the remaining three-quarters consisting of a short branch at the Madras terminus. By this time the whole of the South-West line from coast to coast is finished.

37. It will be seen by the following statements that the traffic for the latter half of the year, ending 30th June 1861, shows an increase over the preceding half years, notwithstanding the unfavourable season, and stagnation of trade. While the gross receipts are larger, the net receipts are smaller than those of the previous year. These results are not altogether favourable, and a great improvement must take place before the line can be considered as in a satisfactory condition. There is reason to hope that this amendment will soon take place, the detached portions of the open line having now been joined and a through traffic established. With a proper system of cross roads to join the stations and the existing roads, with good traffic arrangements, and suitable rates and fares, the railway must absorb the whole traffic of the district through which it runs, and this is considerable. The line will have been constructed at a more moderate cost than most of the other railways, and the works are equally substantial and well executed. A smaller return will accordingly be required to yield a fair profit. The cost per mile of the line just opened from Madras to Beypore is estimated at about 9,000*l.*; while that of the whole undertaking, including the North East line, is taken at about 10,000*l.*, which is below the average.

Statement No. I.

Showing the Number of Passengers conveyed in each Class in each Year.

Year.	Miles open.	Number of Passengers conveyed.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Half-year ending 31st Dec. 1860	137	1,116	4,451	431,661	437,228
Half-year ending 30th June 1861	Maximum 252; Mean for Six Months 227	1,704	6,323	576,500	584,527
Total for year ending 30th June 1861	Maximum 252; Mean for Year 221	2,820	10,774	1,008,161	1,021,755
Ditto ditto 1860	137	2,346	10,346	795,289	807,981
Ditto ditto 1859	96	929	11,598	276,422	288,949

Statement No. II.

Showing Receipts from various Sources, Working Expenses and Net Profits.

Half-year ending	No. of Miles open.	Receipts.			Expenses.			Net Receipts.
		Passengers.	Goods.	Total.	Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£
Half-year ending 31st December 1860	137	19,040	17,915	36,955	19,342	10,087	29,429	7,526
Ditto 30th June 1861	Max. 252, Aver. 227	26,715	20,008	46,723	24,848	9,655	34,503	12,220
Total for year ending 30th June 1861	Mean 221	45,755	37,923	83,678	43,190	19,742	63,932	19,746
Ditto ditto 1860	137	37,059	30,376	67,435	29,342	12,191	41,533	25,905
Ditto ditto 1859	96	25,303	45,543	45,543	17,959	12,197	30,156	15,387

Statement No. III.

Statement showing the Number of Passengers conveyed per Mile and in each Class, during the Years specified.

Year ending	Total Number of Passengers conveyed per Mile.	Number conveyed per Mile.		
		1st Class.	2d Class.	3d Class.
30th June 1859 - -	3,069·7	9·6	180·8	2,879·3
„ 1860 - -	6,535·2	17·1	76·9	5,805·
„ 1861 - -	4,622·3	12·71	47·8	4,561·8

Statement No. IV.

Statement showing Receipts from each Class of Passengers during the Years specified.

Year ending	Receipts.		
	1st Class.	2d Class.	3d Class.
	£	£	£
30th June 1859 - -	523	1,479	19,277
„ 1860 - -	944	1,489	29,914
„ 1861 - -	1,435	1,938	37,530

Statement No. V.

Statement showing the Proportion of Working Expenses to Gross Receipts, and the Proportion of Receipts from Passengers and Goods.

Year ending	Percentage of Working Expenses on Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers	and Goods.
30th June 1859	66·1	55·5	44·5
„ „ 1860	61·2	54·9	45·1
„ „ 1861	78·0	54·6	45·4

BOMBAY AND BARODA RAILWAY.

Bombay and Baroda Railway.

38. The length of this line now open is 132½ miles, extending from the Mhyee river near Baroda on the North to Bulsar on the South. Of these, 96½ were opened during the past year. The traffic has been going on steadily, and the advantages which this line possesses in its favourable gradients have been proved by the comparatively large weight which one engine can draw. By this means a considerable saving will be effected in the locomotive portion of the working expenses, as well as on the wear and tear of permanent way and rolling stock.

39. The finished portion of the line not extending to within 100 miles of Bombay, and the rolling stock being insufficient, the merchants and inhabitants of Bombay can only avail themselves of the Railway to a small extent, and no idea of its commercial value can be gained from the present results. In fact, the conveyance of merchandize does not appear to have been attempted before the end of the year to which the following traffic statements apply. Without, therefore, entering

into further details, which, in the present state of the line, would justify no reliable conclusions, the single table subjoined is sufficient to show what was done during the year ending the 30th June last:—

Period.	Number of Miles open.	Number of Passengers.					Receipts.			Working Expenses and Maintenance.	Net Receipts.
		1st Class.	2d Class.	3d Class.	4th Class.	Total.	Passengers.	Railway Materials.	Total.		
							£	£	£	£	£
Half-year ending 31st December 1860 - -	35½ — Average worked 30	355	1,470	70,971	- -	72,796	3,165	307	3,472	2,269	1,203
Ditto 30 June 1861	162 — Average 9 0	873	3,751	141,108	117,087	262,819	12,547	3,022	15,569	9,510	6,059
Total -	- -	1,228	5,221	212,079	117,087	900,615	15,712	3,329	15,041	11,779	7,262

SCINDE RAILWAY.

TRAFFIC.

Scinde.

40. This line was opened for traffic on the 11th May 1861. It soon appeared that the act was premature. The accommodation for traffic was incomplete, and the resources of the Railway were inadequate to meet the demands of trade which immediately arose. While, on the one hand, it is to be regretted that traffic was lost and inconvenience occasioned, it is encouraging to find that the expectations of those on the spot, in regard to the amount of traffic for which provision should be made, was so much exceeded. This state of things has been remedied. As the traffic up to the 30th of June would only furnish information in respect of six weeks, it would not be worth while in this report to attempt to show the results.

INDUS FLOTILLA.

Indus Flotilla.

41. It cannot be said that the traffic by this portion of the Scinde Railway Company's undertaking has not commenced, for the "Stanley" steamer started on its first commercial voyage on the 22d May, having previously accomplished the trial trip from Kotree to Mooltan and back successfully. She was arrested, however, in the middle of her course, by injury to the machinery, which disabled her so much as to keep her idle for the rest of the year. This break down, besides the injury to the Flotilla, must have retarded the traffic on the railway, as the steamers were to have worked in connection with the trains in conveying the passengers and goods to and from the Punjab.

42. Recent accounts encourage the hope that the Flotilla will soon be in a more satisfactory position; but it cannot be concealed that, hitherto, the operations in Scinde of this Company have disappointed the expectations of the Government and of the Directors. An efficient officer* is now in charge of the fleet, which consisted of 7 passenger and 6 towing steamers, 7 accommodation flats, and 33 cargo barges, but which has recently been increased by 4 steamers purchased by the Company from the Government. It is hoped that, in the course of this year, a regular and speedy service will be established between the railway terminus at Kotree and Moultan.

PUNJAB RAILWAY.

Punjab.

43. The section of this line between Lahore and Umritser, a distance of thirty-two (32) miles, was opened for traffic on the 10th April last. The event excited much interest among the natives, who have shown great eagerness for railway travelling.

CALCUTTA AND SOUTH-EASTERN RAILWAY.

Calcutta and South Eastern.

44. The first section of this line, viz. from Calcutta to Chappahattee, a distance of 16 miles, was opened in December last. The remaining 13 miles will probably be completed and ready for traffic in June of this year.

* Captain Wood, late of the Indian Navy.

GREAT SOUTHERN OF INDIA RAILWAY.

Great Southern.

45. The whole of this railway, viz., from Negapatam to Trichinopoly, was opened for traffic on the 11th March last. The section between Negapatam and Trivatore (14½ miles) had been opened on the 15th July, and from Moatan to Tanjore, a distance of 34 miles, on the 2d December last.

GENERAL TRAFFIC RESULTS.

General Traffic Results.

46. The statements above given furnish the simple results of the working of the lines in their present condition, but, except in one or two respects, they cannot convey any accurate notion of what they will produce in future. The detached portions of line which are open, the imperfect communication between many stations and the existing roads of the country, the unsettled arrangements for conducting the traffic, and the still experimental state of the question of rates and fares, render it very difficult, if not impossible, to anticipate, by estimates or calculations, the results that may be obtained when these works are fully completed.

47. The two great objects are of course to develop the traffic and to reduce the working expenses. In regard to the latter point, one matter for serious consideration, as the lines become finished, is the *permanent* staff requisite for working and maintaining them; and unless strict economy is exercised in this department a very heavy charge will be thrown upon revenue. A large establishment of highly-paid Europeans would soon absorb much of the earnings, and yet a certain amount of European supervision and example is requisite. The object should be to keep the latter within strict bounds, limited to the utmost extent that is consistent with efficiency.

48. What will be the cost of maintenance is another problem which experience only will solve; sufficient, however, has already been gained in respect to one portion of the permanent way; the wooden sleepers, whether imported or made of Indian woods, whether seasoned or chemically prepared, have in parts of the lines already become unserviceable, and many miles have to be renewed. This circumstance, together with the difficulty and expense of obtaining wood for them in the country, have led the consulting engineers of some of the companies strongly to recommend the use of iron sleepers, constructed in the shape of an inverted cup, and called "Greaves' pot sleeper."

49. A further important matter to keep in view is the proper audit of accounts, and the prevention of any encroachment by revenue upon capital. It will probably be difficult for some time to *close* capital accounts, but the *separation* of the two accounts will of course be strictly preserved, and the lax and objectionable system which has been resorted to in some English railways of paying out of capital what is a proper charge against revenue, will not be permitted. At a meeting of a leading railway company in this country during last year, the following official answer was returned to an enquiry as to the way in which a certain expenditure would be met. "When there was any revenue to meet it, of course it "was paid out of revenue; but when there was no revenue, as it must be paid, "it became a charge against capital." The shareholders in Indian railways may rest assured that no maxim of this kind would be countenanced by those who administer the affairs of those undertakings.

RATES AND FARES.

Rates and Fares.

50. The perplexing problem of rates and fares still remains to be solved. Experiments have been tried with varied success, but the incomplete state of the undertakings adds to the difficulty of ascertaining the precise rates which are most suitable and remunerative. One point, however, is unquestionably proved, and that is, that the people of India are similar to the people of every European country in their disposition to travel. The numbers using the rail are in proportion to the inducements offered. For instance, when a fourth class, with reduced fares, was established on the Great Indian Peninsula Railway, with about 350 miles open, the number of passengers increased nearly half a million in six months. But low rates and remunerative rates are not always synonymous. Increase in numbers necessarily produces an increase in the working expenses; and it is doubted whether it is possible to convey, with profit,

passengers in any vehicle, safely constructed and properly fitted up, at the rate of less than one-fifth of a penny per mile, which was the fourth class fare on the line just referred to.

51. In a former report it was explained that, under the contracts, the Government, after communicating with the Companies, fix the fares in the first instance, leaving it to the Companies to propose any alterations that may be found to be desirable, and reserving to themselves the right only of requiring a reduction in the rates (which need not necessarily produce a reduction in the receipts) when the profits reach 10 per cent. In order to arrive at a just conclusion upon the charges which should first be fixed, the Government and the companies have hitherto arranged to regard them as experimental; but when any line is fairly open for traffic, and in working order, the rates will have to be laid down by Government. A very judicious arrangement has been proposed for the settlement of the matter, viz., that the Government should, instead of fixing the actual fares to be charged, approve of a scale of *maximum* rates, leaving it to the Company's officers, in communication with the consulting engineer of Government, to impose such rates from time to time, within the prescribed limit, as may be found to be conducive to the interests of the undertaking. The object of the Government and of the Companies is the same, viz., to secure a remunerative return upon the outlay, but opinions may differ as to the detailed arrangements for obtaining the same end. The above plan has obvious practical advantages; and while it relieves Government from any minute interference, it does not take from it that general supervision which it is desirable, for the interests of the public, that it should retain.

52. The following are the rates of charge at present in force on the open railways, viz.:—

Railway.	Passenger Fares.				Goods' Rates.				
	1st Class.	2nd Class.	3rd Class.	4th Class.	1st Class.	2nd Class.	3rd Class.	4th Class.	5th Class.
	Per mile.	Per mile.	Per mile.	Per mile.	Per ton per mile.	Per ton per mile.	Per ton per mile.	Per ton per mile.	Per ton per mile.
	d.	d.	d.	d.	d.	d.	d.	d.	d.
East Indian	2¼	1⅛	⅜	—	1⅛	1 1/16	2¼	3⅜	6¾
Calcutta and South Eastern	2¼	1⅛	⅜	—	1⅛	1 1/16	2¼	3⅜	6¾
Great Indian Peninsula	2¼	¾	¼	⅛	1	1¼	2	2⅝	3⅝
Bombay and Baroda	1½	¾	¼	—	1	1¼	2	2½	3½
Scinde	2½	¾	¼	—	—	—	—	—	—
Madras	1	¾	¼	—	1½	1⅜	1⅝	—	—
Great Southern	2¼	¾	¼	—	1¼	1½	1¾	2⅛	—

53. Compared with English rates, these are very low. The charge of 2*s.* 6*d.* which the Brighton Company last summer fixed for the third class return fare between Brighton and London by the excursion trains, was considered a marvel of cheapness; but the *ordinary* fare on the Indian lines for the third class is at a lower rate; the one is about ⅔ths, the other is ⅕th of a penny per mile.

54. The question of rates and fares naturally leads to an enquiry into the effects they will have upon the price in the market of the produce of the country, more especially cotton. The annexed account of imports of cotton into this country during the last three years, shows how greatly the supply from India has been increased, in consequence of the price which the commodity has commanded in Lancashire. Cotton.

IMPORTS of Cotton into the United Kingdom for the Years ending December 31st, 1859–60–61.

Countries.	1859.	1860.	1861.
	Cwts.	Cwts.	Cwts.
From the United States	8,586,672	9,963,309	7,316,969
Brazil	200,705	154,347	154,378
Egypt	336,313	392,447	365,108
British East Indies	**1,717,240**	**1,822,689**	**3,295,004**
Other Countries	105,401	86,304	91,619
Total	10,946,331	12,419,096	11,223,078

COMPUTED Real Value of Cotton Imported into the United Kingdom for the Years 1859-60-61.

Countries.	1859.	1860.	1861.
	£	£	£
From the United States - -	23,627,772	26,597,208	26,549,717
Brazil - -	561,947	499,829	556,652
Egypt - - -	1,104,766	1,246,346	1,279,840
British East Indies -	**3,204,748**	**2,997,000**	**7,278,537**
Other Countries - -	263,327	226,747	275,309
Total - -	28,762,560	31,567,130	35,940,055

55. The charge for conveying cotton by railway is now from 1*d.* to 1½*d.* per ton per mile. The mode hitherto adopted of carrying it by bullocks and in country carts, involves an expense of about 3*d.* or 3½*d.* per ton per mile, and the cotton is so much injured during its transit that the cost of conveyance really amounts to about 4½*d.* per ton. The railway charges of 1*d.* and 1½*d.* exhibit, therefore, a very favourable contrast, and will enable the merchant to reduce the price at Manchester to 4*l.* or 4*l.* 10*s.* a ton, or nearly a halfpenny per lb. for all cotton brought from a distance of 300 miles in the interior.

56. Before concluding this report, I should not omit to allude to the loss which all who are connected with Indian Railway affairs have experienced during the past year by the death of Sir James Cosmo Melvill, K.C.B., the Government Director of the Indian Railway Companies. His long and distinguished career in the service of the East India Company is too well known to call for any notice here, but it is not out of place to mention that the Boards, one and all, were unanimous in expressing their admiration of his character, and in recording their sorrow at the event which deprived them of his co-operation and advice.

I have the honour to be,
Sir,
Your most obedient humble servant,

JULAND DANVERS.

* See Cassel's report on cotton to the Bombay Presidency 1862, for much valuable and interesting information, especially pages 279, 298, 299, 318, 319, 326.

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Printed by GEORGE E. EYRE and WILLIAM SPOTTISWOODE,
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For Her Majesty's Stationery Office.

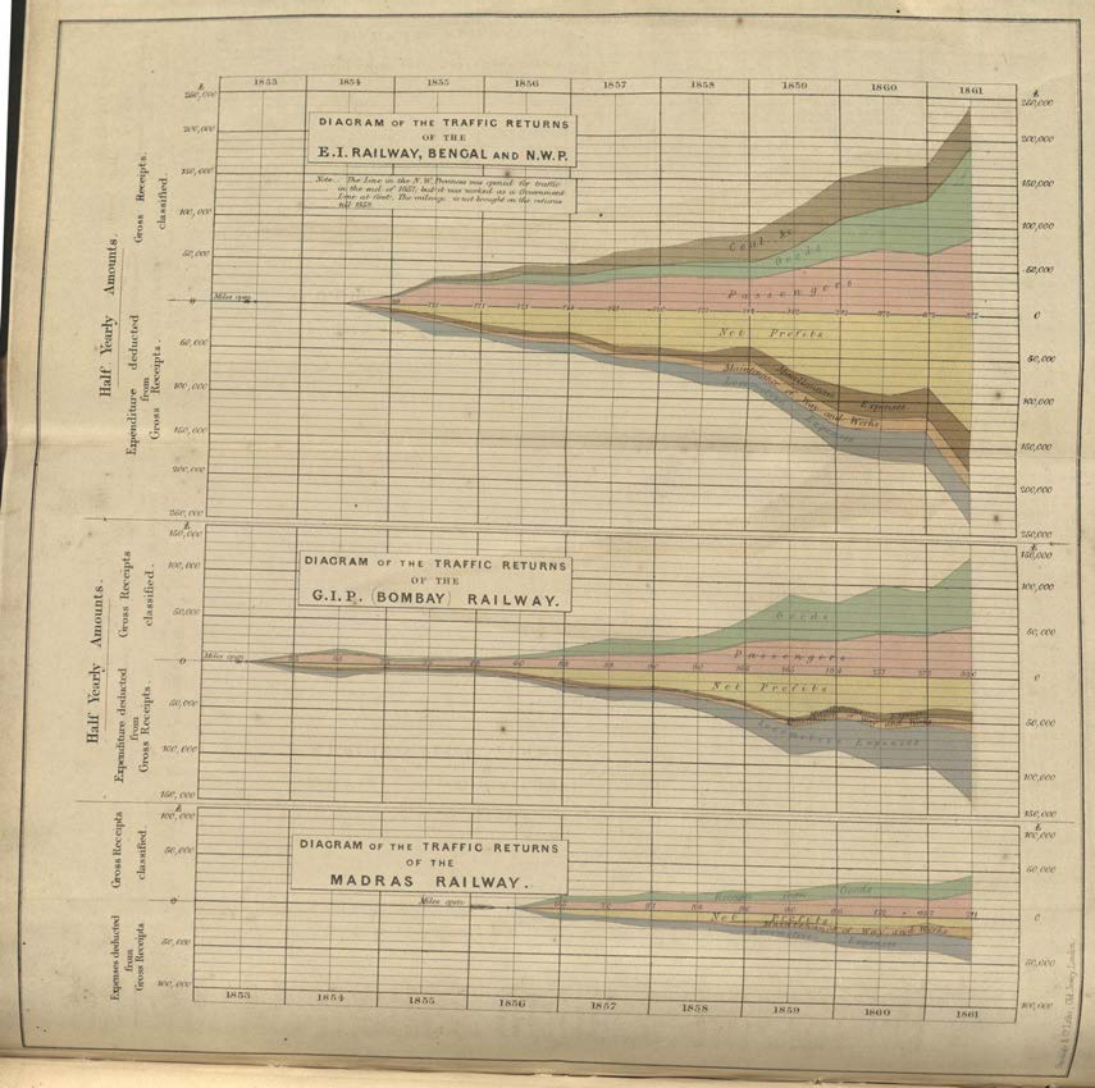
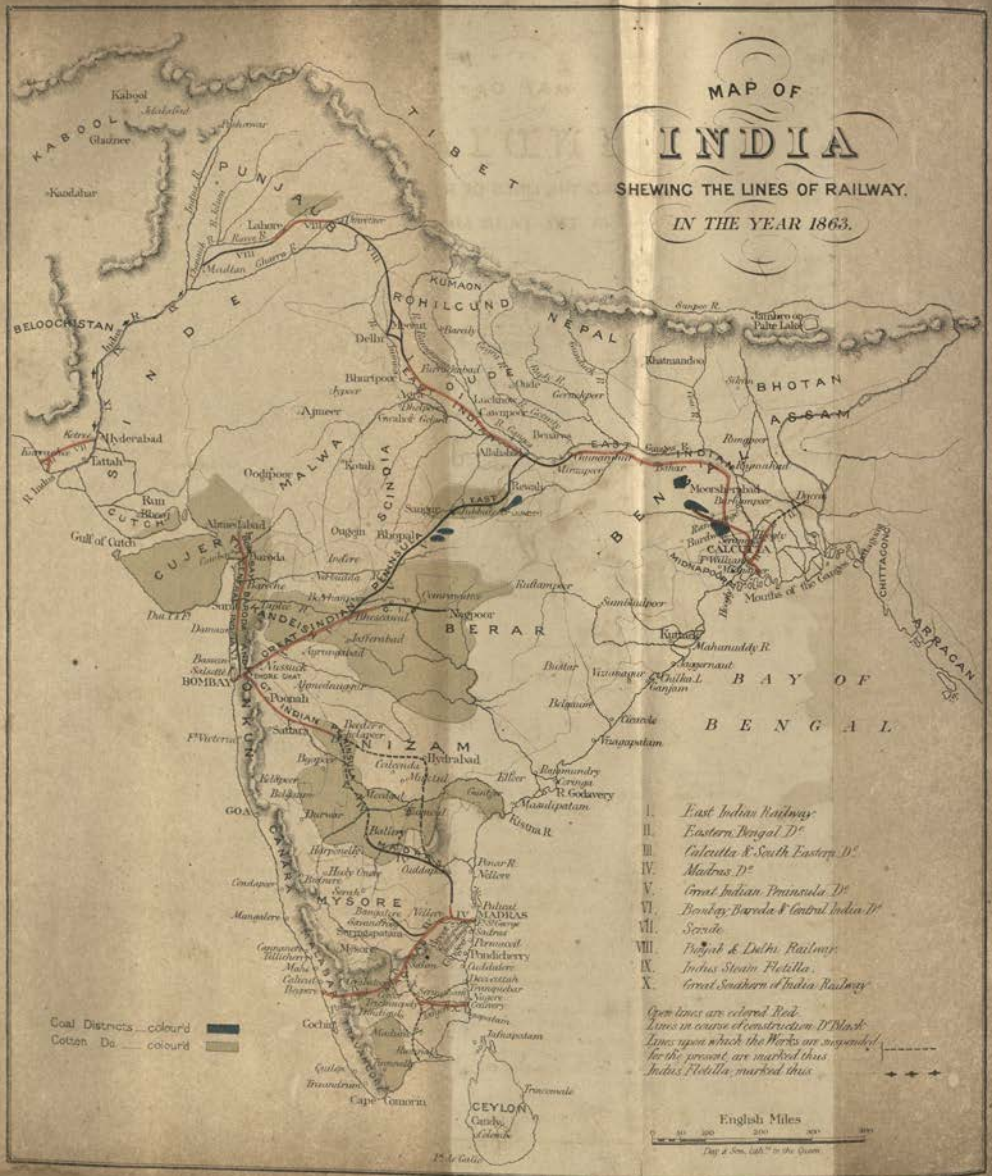


DIAGRAM OF THE TRAFFIC RETURNS OF THE E.I. RAILWAY, BENGAL AND N.W.P.
Note. The Line in the N.W. Provinces was opened for traffic in the mid. of 1857; but it was worked as a Government Line at first. The mileage is not brought on the returns till 1858.
Half Yearly Amounts.
Gross Receipts classified.
Expenditure deducted from Gross Receipts.
Miles open.
Coal &c.
Goods
Passengers
Net Profits
Maintenance of Way and Works
Locomotive Expenses
DIAGRAM OF THE TRAFFIC RETURNS OF THE G.I.P. (BOMBAY) RAILWAY.
Half Yearly Amounts.
Gross Receipts classified.
Expenditure deducted from Gross Receipts.
Miles open.
Goods
Passengers
Net Profits
Locomotive Expenses
DIAGRAM OF THE TRAFFIC RETURNS OF THE MADRAS RAILWAY.
Gross Receipts classified.
Expenses deducted from Gross Receipts.
Miles open.
Goods
Passengers
Net Profits
Maintenance of Way and Works
Locomotive Expenses
1853
1854
1855
1856
1857
1858
1859
1860
1861


MAP OF
INDIA
SHEWING THE LINES OF RAILWAY.
IN THE YEAR 1863.
KABOOL
Ghuznee
Kandahar
Kaboul
BELOOCHISTAN
SINDE
PUNJAUB
Lahore
Moultan
TIBET
KUMAON
ROHILCUND
Delhi
Agra
Allahabad
NEPAL
Gunpoor R.
Jumbore or Pahr Lake
Ruttanadoo
BHOTAN
ASSAM
Bhurtpoor
Ajmeer
Deesa
Lucknow
Gwalior
Gorruckpoor
Benares
Rungpoor
Hyderabad
Tattah
Oodipoor
MALWA
Kotah
Jeypoor
Moorsheedabad
Dacca
Ruh
CUTCH
Gulf of Catch
Ahmedabad
Baroda
Indore
Oujein
Bhopaul
Sangor
Rewah
CUJERAT
SCINDIA
Nerbudda R.
Tapty R.
Surat
Dan. Pt
Damaun
Baroche
Mahadeo Mts
PENINSULA
GREAT INDIAN
ANDEISINDIA
Jubbulpoor
Nagpoor
BERAR
Ruttunpoor
Sumbulpoor
Kurnool
Mahanuddy R.
Nagpernaut
Godavery R.
Pranheeta R.
Wurdah R.
Bassein
Salsette
BOMBAY
Nassuck
Ahmednuggur
Poonah
Sattara
Beejapoor
Hyderabad
NIZAM
Golconda
Moodgul
Ellore
Rajahmundry
Veringa
Maulipatam
Kistna R.
Pennar R.
Vellore
Vizagapatam
Chicacole
BAY OF
BENGAL
Calingapatam
Ganjam
Berhampoor
Cuttack
Pooree
Mouths of the Ganges
Chittagong
ARRACAN
Calcutta
Fort William
Madapolam
Fort St. George
Madras
Pulicat
Sadras
Pondicherry
Cuddalore
Porto Novo
Tranquebar
Negapatam
Tanjore
Trichinopoly
Dindigul
Madura
Tuticorin
Ramnad
Paumben
Manaar I.
Jaffnapatam
Point Calymere
Karical
Negapatam
Vellore
Arcot
Bangalore
Seringapatam
Mysore
Nundydroog
Chittledroog
Hurryhur
Harryhur
Haly Onore
Honore
Sunda
Goa
Darwar
Belgaum
Kolapoor
Ratnagherry
Vingorla
Mangalore
Cannanore
Tellicherry
Mahe
Calicut
Beypore
Palghaut
Coimbatore
Erroad
Salem
Dharmapoory
Vellore
Cochin
Quilon
Travancore
Cape Comorin
Aleppy
Tellapatam
Trincomale
CEYLON
Candy
Colombo
Pt. de Galle
Coal Districts ___ colourd
Cotton Do ___ colourd
I. East Indian Railway
II. Eastern Bengal Dº
III. Calcutta & South Eastern Dº
IV. Madras Dº
V. Great Indian Peninsula Dº
VI. Bombay Baroda & Central India Dº
VII. Scinde
VIII. Punjab & Delhi Railway
IX. Indus Steam Flotilla
X. Great Southern of India Railway
Open lines are colored Red.
Lines in course of construction Dº Black.
Lines upon which the Works are suspended for the present, are marked thus
Indus Flotilla marked thus
English Miles
0 50 100 200 300 400
Day & Son, Lith.rs to the Queen.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1862-63.

BY JULAND DANVERS, ESQ.,
GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
FOR HER MAJESTY'S STATIONERY OFFICE.

1863.

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Calcutta and South-Eastern ,, ,, ,, - - -	39, 40	20
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REPORT.

To the Right Honourable Sir CHARLES WOOD, Bart., G.C.B., M.P.

SIR, India Office, May 1863.

I HAVE the honour to submit my Fourth Annual Report on Railways in India, being that for the year 1862–63.

2. The progress made towards the completion of the lines has, upon the whole, been satisfactory. Seven hundred and forty-seven (747) miles had, on the 31st December last, been added to the 1,609¼ which were open for traffic on the 1st January 1862. Since the beginning of this year, one hundred and eighty-four (184) miles more have been finished, making a total of two thousand five hundred and twenty-eight (2,540) miles upon which passengers and goods are now being conveyed.

3. The greatest distance traversed in a direct line without interruption is on the East Indian Railway from Calcutta to Benares, a length of five hundred and forty (540) miles; the next greatest is the trans-peninsula line from Madras to Beypore, which is 405 miles; and the next from Bombay to Sholapore, across the Bhore Ghât, a length of 295 miles.

4. Several works of great importance and magnitude occur on the lines which have been recently opened. The ascent by the Great Indian Peninsula Railway of the Bhore Ghât, between Bombay and Poonah, comprises some of the most formidable of these. In a distance of 15 miles, the Railway climbs a height of 1,831 feet, the difficulties in its course being overcome by such a series of cuttings, tunnels, viaducts, and embankments as is hardly to be found within the same space in any other work in the world, and are only rivalled in India by those on the sister incline over the Thull Ghât. This arduous undertaking, the particulars of which have been described in a previous report, was carried out by Mr. J. J. Berkley, the Chief Engineer to the Great Indian Peninsula Railway, who, unhappily, has not lived to witness the result of his skill and labour. The addresses to and from Sir Hy. Bartle Frere, K.C.B., the Governor of Bombay, on the occasion of the official opening of the Bhore Ghât Incline, will be found in the Appendix.

5. The Soane Bridge, on the East Indian line, is another magnificent work. Almost twice the length of the railway bridge over the Thames at Charing Cross, it consists of 27 iron girders of 150 feet each, supported on brick foundations. When it is remembered that this immense mass of iron-work has been sent out from England and conveyed hundreds of miles up country, the difficulty of the undertaking, irrespective of its magnitude, will be understood.

6. The bridges on the Baroda line, over the Bassein, Taptee, Nerbudda and Mhye Rivers, crossing water-way to an extent of about six miles, are also very remarkable works. The foundations, in each case, consist of screw piles, braced together and fixed in the bed of the river, the superstructure being made of wrought-iron girders.

7. In addition to the work done to enable 930 miles of new line to be opened, fair progress has been made on the unopened lines, and it is expected that in the course of the present year, between six and seven hundred miles more will be ready for traffic.

8. The following Statement shows the present condition of each railway in respect to its completed and uncompleted portions :—

Railway.	Total Length.	Length opened during 1862.	Length opened since 1st January 1863.	Total Length now opened.	Length remaining to be finished, and estimated Extent in each Year.			
					1863.	1864.	1865 and subsequently.	Total.
	Miles.					Jubbulpore Line.		
East Indian	1,369¼	318	90	972¼	172	—	225	397
Great Indian Peninsula	*1,266	57¼	63	557¼	32	536½	140	708¾
Madras	*850	150	—	448¾	76	84¼	241	401¼
Bombay, Baroda, and Central India	310	34¾	17¾	185¼	124¾	—	—	124¾
Scinde	114	(Opened in 1861.)		114	—	—	—	—
Punjab	252	32	—	32	220	—	—	220
„ Delhi	300	—	—	—	—	—	300	300
Eastern Bengal	110	110	—	110	—	—	—	—
Great Southern	79	30	—	79	—	—	—	—
Calcutta and South-Eastern	29	15	14	29	—	—	—	—
Total	4,679¼	747	184¾	2,527¾	624¾	620¾	906	2,151¾

* The length of these lines depends upon the course chosen for the line from Sholapore to Madras.

9. A contract has been made by the East Indian Railway with Messrs. Waring & Co. for the Jubbulpore line, which has now been fairly commenced. The contract price for the 225 miles, exclusive of permanent way, locomotive engines, and rolling stock, was Rs. 1,31,71,841.

10. With regard to the line from Umritser towards Delhi, it has been decided that, instead of going, as originally proposed, direct through Ferozepore to Delhi, on the right bank of the River Jumna, it shall proceed by the left bank, making a circuit of between thirty and forty miles through a richer country, and by the important towns of Loodiana, Umballa, and Meerut. The Company, who had undertaken to construct it, has issued shares representing a capital of 2,500,000*l.*, upwards of 1,000,000*l.* of which has been paid into the Government Treasury.

11. The examination of the country midway between Bombay and Madras is still going on, and it has not yet been determined whether the lines of the Madras and the Peninsula Railways shall meet at Hydrabad or whether the original route by Bellary shall be followed. Each line has its advocates. On one side it is contended that the direct route is 40 miles shorter than the new one, and is therefore more suitable for political objects; that it is more important that Bellary should be on the main line than Hydrabad, where disturbances would peril the communications; that by adopting the Hydrabad line the capital to be expended in completing the communication between Madras and Bombay would be increased, and that this would reduce the prospect of a return from the through traffic. On the other side it is argued that, while it is true that the through traffic between Madras and Bombay ought not to be carried an unnecessary distance, there is really, comparatively, but small through traffic to provide for, the natural flow of the traffic being from the interior to the coasts on each side; that the centre tract of country which the direct line would traverse has no large towns and but a scanty population; that though called the direct line in comparing it with that by Hydrabad, it is not really a direct one, inasmuch as it goes 30 miles to the left to touch Bellary, and 60 miles to the right to pass through Sholapore, and that, consequently, it cannot be very unwise to diverge 40 miles to reach so important a place as Hydrabad, which, both on political and commercial grounds, it is more desirable to have on the main line than Bellary; that, if disturbances should arise there, the assistance of a railway would be a source of strength and

security to the Government rather than a weakness; and lastly, that, although longer, the mileage cost would not be greater, and it would be a more paying line both on the Madras and the Bombay sides. It is not improbable that the surveys which are now being made may result in the discovery of an improved route for the line *vid* Hydrabad:—until they are completed, the question remains in abeyance.

12. The following Statement relates to the shipment of stores and fuel, and of materials manufactured in this country for the construction of the lines. In the year 1861, the goods sent out weighed 182,621 tons, and cost 1,669,443*l*. Last year these respective amounts were 138,013 tons and 1,487,582*l*. Shipment of materials.

13. The losses during the past year were below the average of former years, and consisted of one ship employed by the Punjab Company with goods valued at 4,073*l*., and goods to the value of 250*l*. belonging to the Calcutta and South-Eastern Railway. The latter were lost while being landed at Calcutta.

For the Year 1862.

Railway Company.	Number of Ships employed.	Amount of Goods in Weight and Measurement.	Value of Goods.	Amount paid for Freight and Insurance.
		Tons.	£	£
East Indian	36	32,911	459,625	57,165
Great Indian Peninsula	90	38,703	427,673	73,085
Madras	50	24,002	168,583	26,790
Bombay and Baroda	35	13,263	178,467	25,976
Scinde	33	2,651	33,164	7,035
Punjaub		48	2,980	183
Indus Flotilla		14,408	81,537	34,148
Eastern Bengal	27	10,669	122,817	27,475
Great Southern	2	1,124	11,077	2,167
Calcutta and South-Eastern	7	234	1,659	367
Total	280	138,013	1,487,582	254,391

14. This, added to former years, makes a total of 2,597,941 tons of materials of the value of 13,843,392*l*., which have been sent out to India from this country in 3,292 ships for the purposes of the railways.

15. On the 31st December 1862, the number of proprietors and debenture holders were 31,420, having increased by 5,260 in the course of the year. The numbers increase in about the same ratio as the capital. Number of Proprietors.

NUMBER of Proprietors in the Indian Railways on the 31st December 1862.

	Number of Shareholders					Number of Debenture Holders.	Total Number of Proprietors.
	With Stock to the Amount of 1,000*l*. and upwards.	With Stock of less than 1,000*l*.	Total Number in England.	Registered in India.	Of which latter are Natives.		
East Indian	3,580	4,634	8,214	228	72	3,539	11,981
Great Indian Peninsula	2,306	3,438	5,744	239	147	875	6,858
Madras	1,331	1,689	3,020	—	—	1,171	4,191
Bombay, Baroda, and Central India.	1,312	820	2,132	89	72	760	2,981
Scinde	464	445	909	13	3	242	1,164
Punjaub	472	625	1,097	19	2	—	1,116
Delhi	302	426	728	33	6	—	761
Indus Flotilla	92	225	317	—	—	118	435
Eastern Bengal	295	430	725	33	26	238	996
Great Southern	164	230	394	23	12	87	504
Calcutta and South-Eastern	87	242	329	82	—	14	425
Total	10,405	13,204	23,609	759	340	7,044	31,412

Persons employed on the open lines.

16. According to returns received from India, the number of persons employed on the open lines on the 30th October last was as follows:—Compared with last year the number of Natives is 35,468 against 32,148, of Europeans 2,344 against 2,181.

Name of Company.	Secretary's or Agent's Department.			Locomotive Department.			Engineers' Department.			Traffic Department.			General Store Department.			Electric Telegraph Department.			Grand Total.			
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Total.	Europeans and East Indians.	Natives.	Number of Miles open.
East Indian (Bengal Division)	7	25	32	273	2,516	2,789	184	7,408	7,592	106	1,117	1,223	88	199	287	20	337	357	12,280	678	11,602	639½
Do. (North-West Provinces)	11	98	109	263	1,784	2,047	26	1,944	1,970	49	422	471	3	334	337	29	151	180	5,114	381	4,733	
Total - -	18	123	141	536	4,300	4,836	210	9,352	9,562	155	1,539	1,694	91	533	624	49	488	537	17,394	1,059	16,335	—
Eastern Bengal - -	4	9	13	21	33	54	-	—	—	17	181	198	—	—	—	-	-	-	265	42	223	45
Calcutta and South-eastern -	3	15	18	8	23	31	4	53	57	3	49	52	—	—	—	1	12	13	171	19	152	15
Madras - - - -	20	132	152	341	2,278	2,619	51	3,343	3,394	106	917	1,023	19	80	99	8	8	16	5,303	545	4,758	—
Great Southern - -	17	13	30	22	54	76	9	274	283	12	84	96	1	41	42	3	2	5	532	64	468	—
Great Indian Peninsula -	6	119	125	152	2,055	2,207	51	106	157	121	2,135	2,256	15	412	427	-	-	-	5,172	345	4,827	438
Bombay, Baroda, and Central India - - - -	13	42	55	52	227	279	41	4,353	4,394	27	198	225	2	190	192	4	17	21	5,166	139	5,027	167½
Scinde - - - -	6	22	28	27	2,881	2,908	21	131	152	3	187	190	65	443	508	10	13	23	3,809	132	3,677	105
Total - -	87	475	562	1,159	11851	13010	387	17,612	17,999	444	5,290	5,734	193	1,699	1,892	5	540	615	39,812	2,345	37,467	—

FINANCIAL POSITION OF THE RAILWAY COMPANIES.

Finance (1).

17. The following statements exhibit, in detail, the financial position of the different Companies:—

In the course of the past year there has been an expenditure of 5,810,852*l.*; that in England having been 1,854,289*l.*, and in India, 3,956,563*l.*

The amount raised by the Companies, in addition to the sum of 2,515,496*l.*, which stood to their credit on the 1st May 1862, was 5,238,567*l.*, so that, on the 1st May instant, there was a balance of 1,943,211*l.* available for the current year's expenditure.

It will be seen that it has been estimated that the expenditure for the year 1863–64 will be 2,012,000*l.* in England, and 4,189,000*l.* in India, and that 5,293,000*l.* will be raised to meet it, in addition to the balance of 1,943,211*l.*

The amount which had been raised on the 30th April 1862—

By share capital was - - - -	£31,308,641
By debentures - - - -	11,756,249
Total - -	£43,064,890

On the 30th April last these amounts stood—

Share capital - - - -	£36,155,244
Debentures - - - -	12,062,795
Total - -	£48,218,039

Statement No. 1.

Showing the Amount raised and expended by each Company during the year 1862–63.

Company.	Amount standing to the Credit of the Company, 30th April 1862.	Amount advanced to Railway Company on 30th April 1862.	Amount raised between 1st May 1862 and 30th April 1863.		Amount expended.				Total Raised during the Year ended 30th April 1863.	Total Expended during Year ended 30th April 1863.
			By Shares.	By Debentures.	In England, between 1st May 1862 and 30th April 1863.	In India.				
						Date.	Amount.	Estimated Expenditure between dates specified and 30th April 1863.		
	£	£	£	£	£		£	£	£	£
East Indian - - - -	1,138,837	—	572,806	—	575,256	28th Feb. 1863	1,119,514	278,000	572,806	1,972,770
Great Indian Peninsula - -	1,216,786	—	727,087	500,000	558,501	,,	888,665	180,000	1,227,087	1,627,166
Madras - - - -	314,473	—	822,835	—	234,590	,,	269,348	55,000	822,835	558,938
Scinde - - - -	—	58,808	17,190	—	35,031	,,	84,006	30,000	17,190	149,037
Indus Flotilla - - -	50,149	—	150	—	9,475	,,	11,851	7,000	150	28,326
Punjab - - - -	179,761	—	83,056	—	135,841	31st Jan. 1863	162,746	30,000	83,056	328,587
Delhi - - - -	—	—	1,042,882	—	1,938	,,	904	1,000	1,042,882	3,842
Bombay and Baroda - -	—	535,345	1,285,870	60,304	225,316	28th Feb. 1863	456,495	120,000	1,346,174	801,811
Eastern Bengal - - -	256,411	—	523	—	53,007	,,	138,661	35,000	523	226,668
Calcutta and South-Eastern -	—	23,663	60,404	—	11,146	,,	43,698	10,000	60,404	64,844
Great Southern - - -	—	23,105	65,460	—	14,188	,,	24,675	10,000	65,460	48,863
Total - -	3,156,417	640,921	4,678,263	560,304	1,854,289	—	3,200,563	756,000	5,238,567	5,810,852
	Net Balance - £2,515,496									

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Statement No. 2.

Estimated Expenditure of Capital by each Company for the Year 1863–64.

Company.	Estimated Expenditure for 1863–64.			Sum standing to the Credit or Debit of the Companies on the 1st May 1863 (partly estimated).	Sums to be raised by Companies.	Total Amount in Home Treasury.	Estimated Balance on the 1st May 1864.
	In England.	In India.	Total.				
	£	£	£	£	£	£	£
East Indian	480,000	1,800,000	2,280,000	Dr. 250,000	2,750,000	2,500,000	220,000
Great Indian Peninsula	200,000	800,000	1,000,000	820,000	380,000	1,200,000	200,000
Madras	550,300	580,000	1,130,000	580,000	700,000	1,280,000	150,000
Scinde	50,000	120,000	170,000	Dr. 180,000	360,000	180,000	10,000
Indus Flotilla	90,000	7,000	97,000	22,000	100,000	122,000	25,000
Punjab	90,000	100,000	190,000	Dr. 65,000	300,000	235,000	45,000
„ Delhi	300,000	400,000	700,000	1,040,000	—	1,040,000	340,000
Bombay and Baroda	230,000	300,000	530,000	10,000	590,000	600,000	70,000
Eastern Bengal	8,000	42,000	50,000	30,000	20,000	50,000	—
Calcutta and South-Eastern	3,000	25,000	28,000	Dr. 25,000	100,000	75,000	47,000
Great Southern	6,000	10,000	16,000	Dr. 6,000	23,000	17,000	1,000
Total	2,007,000	4,184,000	6,191,000	Cr. 2,502,000 Dr. 526,000 Net Cr. 1,976,000	5,323,000	7,299,000	1,108,000

Statement No. 3.

Showing the Total Amount of Capital estimated to be required for the Construction of each Undertaking (with a single Line), the Amount raised by each Company, and the Amount expended, up to the 30th April 1863.

Company.	Amount estimated to be required for the Undertaking as now sanctioned.	Amount authorized by Government to be raised.				Amount raised in England to 30th April 1863.			Amount raised in India to Date of last Advices.	Total raised to 30th April 1863.	Total Amount advanced for Expenditure to 30th April 1863 (partly estimated).
		Share Capital.	Debentures.		Total.	By Shares.	By Debentures.				
			Convertible into Shares.	Inconvertible.			Convertible.	Inconvertible.			
	£	£	£	£	£	£	£	£	£	£	£
East Indian - - -	24,750,000	18,594,000	3,156,000	3,000,000	24,750,000	13,651,767	3,156,000	3,000,000	250,530	20,058,297	20,319,421
Great Indian Peninsula - -	12,000,000	9,000,000	—	2,000,000	11,000,000	8,298,869	—	2,000,000	367,099	10,665,968	9,849,262
Madras:	8,500,000	6,000,900	1,665,800	333,300	8,000,000	4,791,883	1,665,800	333,300	—	6,790,983	6,211,713
Scinde - - - -	1,800,000	1,181,300	318,700	—	1,500,000	1,143,805	318,700	—	20,714	1,483,219	1,673,873
Indus Flotilla - - -	400,000	295,000	83,000	—	378,000	249,905	83,000	—	—	302,905	310,933
Punjab - - - -	2,500,000	1,500,000	—	—	1,500,000	1,366,355	—	—	8,109	1,374,464	1,440,236
„ Delhi - - -	3,000,000	2,500,000	—	—	2,500,000	1,040,740	—	—	2,142	1,042,802	3,842
Bombay, Baroda, and Central India	4,500,000	3,650,000	850,000	—	4,500,000	3,147,664	849,995	—	21,662	4,019,321	4,010,064
Eastern Bengal - - -	1,500,000	1,000,000	400,000	—	1,400,000	990,745	400,000	—	9,255	1,400,000	1,369,734
Calcutta and South-Eastern -	500,000	310,000	90,000	—	400,000	290,377	90,000	—	19,623	400,000	428,104
Great Southern - - -	660,000	484,000	166,000	—	650,000	482,780	166,000	—	1,220	650,000	656,507
Total - - -	**60,110,000**	44,515,200	6,729,500	5,333,300	**56,578,000**	35,454,890	6,729,495	5,333,300	700,354	**48,218,039**	**46,273,689**

18. Works have been sanctioned which, it is estimated, will cost about 60,000,000*l.*, 48,303,437*l.* of which has been raised, and 46,488,989*l.* expended. A sum of 13,511,011*l.* thus remains to be raised and expended, which may be distributed over the following years, in proportions specified below:—

1863–64 - -	£6,000,000	1866–67 - -	£1,250,000
1864–65 - -	3,000,000	1867–68 - -	750,000
1865–66 - -	2,000,000	1868–69 - -	500,000

19. The subjoined table gives the amount which has been annually expended since the commencement of operations in 1850, and the length opened in each year. It is hardly necessary to say that the annual expenditure applies not only to the lines completed in each year, but to the works in progress.

Year.	Miles opened during the Year.	Expended in England.	Expended in India.	Total.
		£	£	£
Up to 1850 -	—	130,375	44,781	175,156
In 1851 -	—	154,212	197,111	351,323
„ 1852 -	—	174,920	252,640	427,560
„ 1853 -	22¼	252,484	418,165	670,649
„ 1854 -	50¼	960,878	768,710	1,729,588
„ 1855 -	98½	1,939,101	1,431,904	3,571,005
„ 1856 -	101¾	1,752,813	1,765,094	3,517,907
„ 1857 -	143	1,324,873	2,092,395	3,417,268
„ 1858 -	145	1,940,052	3,551,073	5,491,125
„ 1859 -	74½	2,507,949	4,654,923	7,162,872
„ 1860 -	208	2,396,924	5,192,846	7,589,770
„ 1861 -	759	1,596,010	4,962,604	6,558,614
„ 1862 -	747	1,854,289	3,956,563*	5,810,852
	Total -	16,984,880	29,288,809	46,273,689

* Partly estimated.

20. It will be observed, that the annual expenditure, both in this country and in India, is beginning to diminish. This is an indication of the approaching completion of the system of trunk lines which was sanctioned with guaranteed capital. Last year's expenditure has not, however, been so large as was expected, and the extent of line opened has consequently been less.

21. The manner in which the greater portion of the expenditure given in the last table has been divided may be gathered from the subjoined statement:—

STATEMENT showing the Amount expended under the respective heads of—

Railway.	Works and Bridges, &c.		Permanent Way and Stations.	Freight and Insurance.	Rolling Stock.	Establishments.	Miscellaneous, including Electric Telegraph, Stores, &c.
	£	£	£	£	£	£	£
East Indian - -	5,888,339		4,389,821	*2,049,818	2,271,251	3,010,768†	1,580,969
Great Indian Peninsula -	3,991,037		1,945,651	Included in value of Articles.	860,351	667,630†	93,340
Madras - - -	1,568,474	—	1,634,248	—	322,089	417,982	342,072
Bombay and Baroda -	705,975	555,676	621,151	364,092	295,833	245,650	341,922
Scinde - - -	515,145	53,917	319,040	127,432	127,602	47,691	277,817
Punjab - - -	47,625	8,020	463,884	261,111	204,297	32,435	106,924
	Steamers and Barges.						
Indus Flotilla - -	23,996	—	176,638	8,916		10,563	41,253
Eastern Bengal - -	955,425 (Including Freight and Insurance, Rolling Stock.)		137,230			131,315	58,193
Calcutta and South Eastern	84,415		61,450	35,336	37,624	45,908	16,160
Great Southern - -	146,550	55,906	155,114	93,355	49,571	65,920	25,001

* This is exclusive of the cost of the Steamers for conveying the materials up country, which cost about 600,000*l.*
† Including Engineering Staff and Surveying Expenses.

22. It must be remarked that, while the amounts above given represent the expenditure incurred by the Railway Companies, they do not show the whole of the actual cost of the lines. The Companies have expended about 46,500,000*l.*,—17,000,000*l.* in England, and 29,500,000*l.* in India. To this sum must be added, first, the value of the land, which is purchased by the Government and given to the Railway Companies, and secondly, an amount equivalent to 2*d.* on every rupee advanced, during the last few years, by the Government in India for expenditure in that country. It will be remembered that the money raised by the Railway Companies is paid into the Government Treasury in England, and such portion of it as is not required for their own purposes is available for the Home expenditure of the Indian Government, thus obviating the necessity of remittances to this extent from India. On the other hand, the funds necessary for the execution of the works in India are provided out of the Government Treasuries there. When the contracts were made, the rate of exchange for the rupee was 1*s.* 10*d.*, and it was stipulated in all the contracts that the rupee should, in the accounts between the Government and the Companies, be converted into sterling at that rate. For every 1*s.* 10*d.* received by the Government into the Home Treasury, they have therefore advanced one rupee in India. At the commencement of operations, the value of the rupee being 1*s.* 10*d.*, there was no loss or gain on either side, but when the value of the rupee rose to 2*s.*, the Government spent in India the equivalent of 2*s.* for every 1*s.* 10*d.* they appropriated to Home expenditure in England. The sum expended in this shape may be taken at 2,400,000*l.* Through the operation of the contract, this may perhaps be ultimately recovered; for, when the receipts of the railways in India (which are paid every half year into the Government Treasuries) are remitted to this country in payment of dividends, the Government will account to the Companies in England only for 1*s.* 10*d.* in respect of each rupee received in India, and thus, if the rate of 2*s.* continues, and the receipts of the railways are sufficient to pay 5 per cent. interest on the capital advanced, the Government, in the course of time, will recover great part of this sum. In the meantime, it constitutes an annual charge on the revenues of India, and is in fact a contribution on the part of Government towards the construction of the railways.

Contributions by Government towards the construction of the lines, beyond the Guarantee.

23. The total amount expended by Government in the purchase of land for the railways cannot be given, in the absence of the requisite information from India, but, as regards portions where the cost has been ascertained, it amounts to an average of about 300*l.* per mile, or in all, including sites for stations, about 1,500,000*l.*

24. The expenditure on rolling stock is represented by the following locomotive engines and vehicles now on the lines, or on their way thither.

	Miles open.	Engines.	Carriages.	Trucks and Waggons, &c.	Total Number of Vehicles.
East Indian (Bengal)	972¼	138	378	2,449	3,495
„ (North-West Provinces)		46	102	566	
Great Indian Peninsula	557¼	83	270	2,378	2,648
Madras	448¾	62	135	1,412	1,547
Bombay and Baroda	185½	43	234	1,800	2,034
Scinde	114	20	45	307	352
Punjab	32	5	22	105	127
Eastern Bengal	110	20	102	370	472
Great Southern	79	9	32	154	186
Calcutta and South-Eastern	29	6	42	157	199
Total	2,527¾	432	1,362	9,698	11,060

The following remarks relate to each undertaking separately, and to the traffic on each open line.

EAST INDIAN RAILWAY.

25. The whole of the Bengal division of this great line, viz., between Calcutta and Benares, a distance (including branches) of 609 miles, is now open. East Indian.

In the North-West division 280 miles are open, leaving a further length of from 230 to 240 miles to complete the line to Delhi. It is expected that this portion

will be finished, with the exception of the Jumna bridge at Allahabad, in the course of the present year.

The Jubbulpore branch, just commenced, will not be completed for three years at least.

26. The Governor General, Lord Elgin, travelled by railway to Benares on his recent journey from Calcutta to the North-West Provinces, and, in a paper dated the 7th February 1863, thus describes his impressions upon the undertaking:—

"The distance from Calcutta by rail to Benares is 541 miles. Work was begun in 1851. The line to Burdwan was opened in February 1855; to the Adjai in October 1858; to Rajmahal in October 1859; to Bhagulpore in 1861; to Monghyr in February 1862; and to Benares in December 1863. In ten years, therefore, have been opened (including branches) a continuous length of 601 miles, being at the rate of 60 miles a year. This is exclusive of the portion of the line already finished between Allahabad and Agra in the North-Western Provinces, and of the section from Agra to Allyghur, which it is expected will be ready in a few weeks. Including this length, the progress of the East Indian Railway has not been short of 90 miles a year, a rate which, if it has not come up to the expectations first entertained, is, under all the circumstances of the case, satisfactory as regards the past, and encouraging as regards the future.

"3. On his journey from Calcutta to Benares, His Excellency observed, with much interest, the numerous striking works that have been so successfully constructed on this railway by the Company's engineers, and viewed with particular admiration the great girder bridge over the Soane, which, it is believed, is exceeded in magnitude by only one bridge in the world. The smaller girder bridges over the Keeul and Hullohur, the heavy flood arching in the vicinity of these rivers, the masonry bridges over the Adjai and More, and the Monghyr tunnel also attracted the attention of His Excellency the Viceroy, as works of more than ordinary difficulty, designed and carried out with signal ability.

"4. His Excellency the Governor General gladly accepts this opportunity of acknowledging the services rendered by the officers of the Railway Company in the prosecution of this great work, and of expressing more especially the strong sense he entertains of the high engineering skill and the steady devotion to his duties exhibited by Mr. George Turnbull, the Chief Engineer of the Company in Bengal, who in a few days will give up the direction of the works which he has now seen completed. Although not in the immediate employment of the Government, Mr. Turnbull has, in the opinion of His Excellency, well earned the expression of the thanks of the Governor General for his professional services, which have, indeed, been rendered as much to the public as to the Railway Company. In all Mr. Turnbull's dealings with the Officers of the Government he has invariably shown that moderation and desire to conciliate which were essential to the harmonious and successful carrying on of the railway works, under the peculiar conditions imposed by the terms of the Government guarantee; and the Governor General has much satisfaction in signifying on behalf of the Government of India his high estimation of the manner in which all Mr. Turnbull's relations with the Government have been conducted.

"5. His Excellency the Viceroy will not fail to bring to the favourable notice of Her Majesty's Government the long and excellent services of Mr. Turnbull, who, having been the first railway engineer employed in India, has now happily seen the portion of this great work on which he was more particularly engaged brought to a close, after many years of arduous and persevering labour, under circumstances of unusual difficulty, with the most complete satisfaction to his employers and to the Government, and with the highest credit to himself."

27. It may be mentioned, as a curious fact, that the quickest journey ever performed between Benares and London was by Mr. Turnbull, who left the former place on the 8th February, arrived at Calcutta on the 9th, left Calcutta the same day, and reached London on the 15th March, occupying but 36 days in all.

28. The following traffic returns for the year ending the 30th June 1862, apply only to 610 miles. It will be observed that the traffic has increased in all its branches. The mileage receipts cannot be expected to remain at the same amount while extensions are rapidly being opened, but it is satisfying to know that they are gradually recovering their former position. The striking feature in the passenger traffic is the great preponderance of third class travellers which still continues.

Statement No. I.

Comparative Statement, showing the Amount of Receipts from Passengers and Goods, the Working Expenses, and the Net Profits, during the Years ending 30th June 1859, 1860, 1861, and 1862.

Bengal Division.

Period.	Mean Number of Miles open.	Receipts from Conveyance of			Total Receipts.	Working Expenses.			Net Profits.
		Passengers.	Merchandise.	Miscellaneous.		Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£	£
Half-year ending 31st December 1861	273½	64,896	102,661	7,117	174,674	60,842	31,666	92,508	82,166
Ditto, 30th June 1862	348⅔	83,211	127,641	7,920	218,772	68,227	37,925	106,152	112,620
Year ending 30th June 1862	311	148,107	220,302	15,037	393,446	129,069	69,595	198,660	194,786
Ditto, 1861	217	116,371	85,504 / 81,192	13,436	297,533	112,525	30,869	143,394	153,139
Ditto, 1860	166	98,809	133,334	Railway Materials. 16,371	239,516	—	—	106,265	133,251
Ditto, 1859	166	73,947	92,517	21,525	192,836	—	—	96,184	96,651

North-West Provinces Division.

Period.	Number of Miles open.	Receipts from Conveyance of			Total Receipts.	Working Expenses.			Net Profits.
		Passengers.	Merchandise.	Miscellaneous.		Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£	£
Half-year ending 31st December 1861	218½	27,953	48,563	2 806	79,323	17,073	12,305	29,379	49,944
Ditto, 30th June 1862	262	34,315	44,294	1,828	80,437	27,019	17,148	44,167	36,270
Year ending 30th June 1862	245¼	62,268	92,857	4,634	159,759	44,092	29,453	73,545	86,214
Ditto, 1861	123	38,623	68,479	3,839	110,941	—	—	49,501	61,441
Ditto, 1860		28,837	41,541	8,915	79,293	—	—	40,371	38,922

Statement No. II.

Comparative Statement showing the proportion of Working Expenses to Gross Receipts, and the proportion per cent. of Receipts from Passengers and Goods.

Bengal Division.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1859	45·04	35·9	64·
,, ,, 1860	44·36	37·4	62·5
,, ,, 1861	48·35	39·3	60·7
,, ,, 1862	50·49	39·63	60·37

North-West Provinces Division.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1860	50·91	36·1	63·9
,, ,, 1861	44·61	34·8	65·2
,, ,, 1862	46·03	36·13	63·87

STATEMENT No. III.

COMPARATIVE STATEMENT showing the Number of Passengers conveyed during the Years ending 30th June 1859, 1860, 1861, and 1862.

BENGAL DIVISION.

Period.	Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Year ending 30th June 1859	166	15,106	57,309	1,199,517	1,271,932
" " 1860	166	17,334	69,693	1,440,740	1,527,567
" " 1861	217	19,403	69,583	1,561,461	1,650,447
" " 1862	Average. 311	22,420	76,421	1,838,259	1,937,100

NORTH-WEST PROVINCES DIVISION.

Period.	Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Year ending 30th June 1860	123	2,979	7,433	196,344	206,756
" " 1861	—	2,856	4,872	219,078	226,811
" " 1862	Average. 245	3,874	7,079	331,982	342,935

STATEMENT No. IV.

COMPARATIVE STATEMENT showing the Total Number of Passengers conveyed per Mile, and the Total Number per Mile of each Class.

BENGAL DIVISION.

Period.	Total Number of Passengers conveyed per Mile.	Total Number conveyed per Mile in		
		1st Class.	2d Class.	3d Class.
1859	9,661	106·3	403·5	9,151·5
1860	9,203	104·4	419·8	8,679·1
1861	7,605	89·2	320·7	7,195·1
1862	6,228	72·	245·7	5,910·8

NORTH-WEST PROVINCES DIVISION.

Period.	Total Number of Passengers conveyed per Mile.	Total Number conveyed per Mile in		
		1st Class	2d Class.	3d Class.
1860	1,680·9	24·2	60·4	1,506·2
1861	1,844·	23·3	39·6	1,781·1
1862	1,399·	15·8	28·9	1,355·

GREAT INDIAN PENINSULA.

Great Indian Peninsula.

29. A length of 57¼ miles was added to this line during the past year, and 63 more since the 31st December last, making a total distance of 557¼ miles available for public traffic. By opening the last section to Mulkapoor, the line is brought into immediate connexion with the great cotton district of Central India, which is soon

to be traversed by the rail. Other sections will, it is expected, be opened as follows:—

	Miles.	Date.
Thull Ghât Incline - - -	9¼ -	May 1864.
Nagpore Branch:		
Mulkapoor to Sheagaum - -	32 -	November 1863.
Sheagaum to Oomrawuttee -	72½ -	May 1864.
Oomrawuttee to Nagpore - -	120 -	June 1864.
Jubbulpore Line:		
Bhosawul to Hurdah - -	138¾ -	September 1864.
Hurdah to Sohagpore - -	80 -	" "
Sohagpore to Jubbulpore - -	116 -	" "

30. A most important addition made since the beginning of this year has been already referred to (at page 3), viz., the Bhore Ghât Incline, the completion of which will put an end to the interruption of the through traffic on the South-Eastern line, and to the great expense of working that section by means of carts and bullocks. These have been quite inadequate to carry to the Railway the large quantities of cotton which were brought for conveyance to Bombay, and which have consequently accumulated at the head of the Ghât. It will be interesting to watch the effect of the opening of this section upon the traffic, which, during the past year, has shown a steady increase, notwithstanding the drawbacks to which it has hitherto been subject. It is satisfactory to know that, previously to the opening of the Bhore Ghât Incline, a considerable reduction has been effected in the working expenses, and that there is now fair ground for expecting that this reduction will continue. The improvement, however, is hardly perceptible in the following returns, which are not brought up beyond the 30th June last.

Statement No. I.

Traffic.

Statement showing the Amount of Receipts from Passengers and Goods, and of Working Expenses, during the Years ending 30th June 1859, 1860, 1861, and 1862.

Period.	Number of Miles open.	Receipts.			Working Expenses.			Net Receipts.
		Passengers.	Goods.	Total.	Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£
Half-year ending 31st December 1861 - -	437¾	59,533	52,531	112,114	59,993	28,984	88,977	23,137
Half-year ending 30th June 1862 - - - -	—	63,560	103,584	167,144	68,477	35,236	103,713	63,430
Year ending 30th June 1862	437¾ Average.	123,143	156,115	279,258	128,470	64,220	192,690	86,567
" " 1861	320	105,607	123,182	228,689	135,042	23,869	158,911	69,779
" " 1860	279	72,747	Railway Materials 81,267 / 27,663	181,677	—	—	106,796	74,881
" " 1859	194	60,785	57,079 / 29,567	147,431	—	—	65,491	82,940

Statement No. II.

Statement showing the Proportion of Working Expenses to Gross Receipts, and the Proportion of Receipts from Passengers and Goods.

Period.	Proportion per cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1859	44·1	41·7	58·3
" " 1860	58·7	40·4	60·6
" " 1861	69·5	46·2	53·8
" " 1862	68·7	44·1	55·9

STATEMENT No. III.

STATEMENT showing the Number of Passengers conveyed during the Years ending 30th June, 1859, 1860, 1861, and 1862.

Period.	Number of Miles open.	Number of Passengers.				Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	4th Class.	
Year ending 30th June 1859	194	12,938	107,919	1,040,644		1,161,501
" " 1860	279	11,133	166,740	1,116,947		1,294,820
" " 1861	320	20,121	183,522	855,126	955,172	2,013,942
" " 1862	Mean, 416½	22,448	147,883	1,996,673	342,958½ Discontinued in Oct. 1861.	2,509,962½

STATEMENT No. IV.

STATEMENT showing the Number of Passengers conveyed per Mile, and the Number per Mile in each Class.

Period.	Total Number of Passengers conveyed per Mile.	Number conveyed per Mile in each Class.			
		1st Class.	2d Class.	3d Class.	4th Class.
Year ending 30th June 1859	5,987	67	556	5,364	—
" " 1860	4,359	37	560	3,761	—
" " 1861	6,293	62	573	2,672	2,984
" " 1862	3,389	54	355	4,810	824

MADRAS RAILWAY.

Madras.

31. The whole of the South-West division of this line, 406 miles in length, from Madras to Beypore, was opened for traffic in May 1862. The Bangalore branch approaches completion, and will, it is expected, be ready for traffic by the beginning of next year. On the North-West line, 14 miles have been added to the extent (27 miles) previously opened, and the line to Cuddapah will probably be completed by the end of this year.

It will be seen that the traffic is still small, although increasing. The gross receipts for the two half-years ending the 31st December 1861, and 30th June 1862, exceeding those of the corresponding periods in the previous year by 19,531*l.* and 20,629*l.* respectively; but the net profits are reduced by an extraordinary charge, under the head of maintenance of way, for replacing worn-out wooden sleepers with iron ones.

The raising of the fares from two to three pies per mile for third class passengers is said to have produced successful results; for although the numbers are rather less, the receipts are more.

For the first time, the receipts from the conveyance of goods have exceeded the receipts from passengers.

STATEMENT No. I.

Showing the Amount of Receipts from Passengers, Goods, &c., and of Working Expenses, during the Years ending 30th June 1859, 1860, 1861, and 1862.

Period.	No. of Miles open.	Receipts.			Working Expenses.			Net Receipts.
		Passengers.	Goods, &c.	Total.	Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£
December 1861 - -		26,264	30,222	56,486	26,907	12,076	38,983	17,503
June 30th, 1862 - -		34,660	32,629	67,289	30,197	22,415	52,612	14,677
Year ending 30th June 1862	Mean 282	60,924	62,851	123,775	57,104	34,491	91,595	32,180
" " 1861	221	45,755	37,923	83,678	43,190	19,742	63,932	19,746
" " 1860	137	37,059	30,376	67,435	29,342	12,191	41,533	25,905
" " 1859	96	25,303	20,240	45,543	17,959	12,197	30,156	15,387

Statement No. II.

Showing the Proportion of Working Expenses to Gross Receipts, and the Proportion of Receipts from Passengers and Goods.

Period.	Proportion per Cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1859	66·1	55·5	44·5
" " 1860	61·2	54·9	45·1
" " 1861	78·0	54·6	45·4
" " 1862	74·7	49·2	50·8

Statement No. III.

Showing the Number of Passengers conveyed during the Years ending 30th June 1859, 1860, 1861, and 1862.

Period.	Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
	e an.				
Year ending 30th June 1859	96	929	11,598	276,422	288,949
" " 1860	137	2,346	10,346	795,289	807,981
" " 1861	221	2,774	10,428	969,287	982,489
" " 1862	282	8,626	47,695	1,025,218	1,081,539

Statement No. IV.

Showing the Number of Passengers conveyed per Mile, and the Number per Mile in each Class.

Period.	Number of Passengers conveyed per Mile.	Number conveyed per Mile.		
		1st Class.	2d Class.	3d Class.
Year ending 30th June 1859	3,069·7	9	180	2,879
" " 1860	6,535·2	17	77	5,805
" " 1861	4,445·6	13	46	4,385
" " 1862	3,835·	30	169	3,635

BOMBAY AND BARODA.

Bombay and Baroda.

32. Of the 310 miles of Railway undertaken by this Company, 185 are now open for traffic, extending from the Par River, 125 miles north of Bombay, to the northern terminus at Ahmedabad. The southern section of the line, which will take it into Bombay, still remains to be finished. This important link will, it is expected, be completed in the course of the present year. Until then the traffic is carried on under great disadvantages, but the returns already contain evidence of the large amount that will probably come on the line. The Chairman of the Company, Colonel P. T. French, has lately returned from Bombay, and, after frequent visits to all parts of the line, is very favourably impressed with its capabilities and prospects. Colonel Kennedy, the Consulting Engineer to the Company, has recently proceeded to Bombay to superintend the completion of the line.

The number of passengers conveyed during the year ending the 30th June last, was as follows, viz.:—

—	Half-Year ending 31st December 1861.	Half-Year ending 30th June 1862.	Total.
1st Class - - -	1,026	1,037	2,063
2d Class - - -	5,264	5,716	10,980
3d Class - - -	420,237	418,048	838,285
	426,527	424,801	851,328

The following Statement shows the receipts from passengers and goods and the expenses of working, &c., for the years ending 30th June 1861 and 1862:—

Period.	Number of Miles.	Receipts.			Expenses.			Net Receipts.
		Passengers.	Goods and Railway Materials.	Total.	Working.	Maintenance.	Total.	
	Average worked.	£	£	£	£	£	£	£
Half-year ending December 1861 - - -	127	16,633	5,092	21,725	10,021	966	10,987	10,738
Half-year ending June 1862	132	17,709	7,499	25,208	12,306	2,862	15,168	10,040
Year ending June 1862 -	—	34,342	12,591	46,933	22,327	3,828	26,155	20,778
„ „ 1861 -	60	15,712	3,331	19,043	11,782			7,261

SCINDE RAILWAY.

33. This line has now been opened for traffic nearly two years. Since it has been properly equipped with rolling stock, the traffic has been increasing in a satisfactory manner. The trade returns furnish strong proof of the benefits which the railway is conferring upon Scinde and the adjacent provinces. Prior to 1862, no cotton was seen on the Indus. Now, great quantities, as well as other products, such as indigo and grain, wool, &c., are conveyed by the steamers and by the railway. The unprecedented floods in June last damaged the earthworks and some of the culverts on a portion of the line so much, that the traffic was stopped, but in the course of nine days the necessary repairs were completed, and business was resumed.

34. It will be seen by the following traffic returns that the net receipts for the year ending 30th June 1862, amounted to 5,442*l.*, and that, with the exception of about 100*l.*, the whole was earned during the second half-year. This was in a great measure caused by the inadequate supply of rolling stock when the line was opened. The traffic has hitherto increased in proportion to the number of waggons. More are required and are being provided. The working expenses will, it is hoped, then be reduced. In the latter half-year given below, they were 75 per cent. of the gross receipts:—

Period.	Miles open.	Receipts.			Expenses.	Net Receipts.
		Passengers.	Goods, &c.	Total.	Working and Maintenance.	
		£	£	£	£	£
Year ending 31st December 1861	114	4,509	10,528	15,037	14,933	104
„ „ 30th June 1862 -	114	5,536	19,500	25,036	19,698	5,338
Total - - -	- -	10,045	30,028	40,073	34,631	5,442

Since June last the traffic has improved still more, and it is expected that the net receipts for the half-year ending 31st December last, will be nearly double that for the whole of the previous year.

The number of passengers conveyed during the year ending 30th June 1862 was as follows:—

	Half-Year ending 31st December 1861.	Half-Year ending 30th June 1862.	Total.
1st Class - - -	223	268	491
2d Class - - -	2,459	2,686	5,145
3d Class - - -	38,047	46,526	84,573
	40,729	49,480	90,209

PUNJAB RAILWAY.

35. The section of the Punjab Railway between Lahore and Umritsir, 32 miles in length, was opened in April. The traffic has been confined principally to passengers, of whom more than a quarter of a million had been carried between April and December, of which 121,707½ were conveyed before the 30th June, viz.:— Punjab Railway.

First class - - -	287½
Second class - - -	546
Third class - - -	120,874
Total - - -	121,707½

The goods traffic, which did not commence till late in the year, is inconsiderable. It can hardly be expected to be otherwise until the line is completed to Mooltan. This will probably be the case before the end of the present year.

INDUS FLOTILLA.

36. This flotilla now consists of 7 passenger steamers and 11 accommodation and other barges, which keep up a bi-monthly communication between Kotree and Mooltan. Five of these steamers and barges were purchased from the Government, together with workshops, &c. There has been lamentable delay in completing the boats originally contracted for, and all the proceedings connected with that contract have been unsatisfactory. Several boats, which should have been afloat more than a year ago, are not yet launched, and the two boats which have been taken over by the Company from the contractors, do not attain the speed expected. While, however, failure has hitherto attended the formation of the fleet, fault is not to be found with the management of that portion which has been completed; but, even when all the boats are finished and well equipped, it may be doubted, looking to the rapidly increasing trade, and to the difficulties of navigating the river in the dry season, whether this means of conveyance can ever be adequate for the great traffic which will be created between the termini of the two railways. Indus Flotilla.

EASTERN BENGAL RAILWAY.

37. This line, 110 miles in length, was opened throughout in November last, a portion having been previously opened in September. The works, which, from all accounts, have been completed in a very substantial and satisfactory manner, were commenced in April 1859, so that the line has been about three years and a half in course of construction. A proposition is now under consideration for extending this line, as originally intended, towards Dacca. Eastern Bengal.

38. The traffic has been steadily improving since the first opening, and the weekly receipts now average upwards of 14*l.* per mile. During the eleven weeks between the 11th October and the 31st December last, 98,025 passengers were conveyed, being,—

4,178 first class.
5,094 second class.
88,953 third class.

CALCUTTA AND SOUTH-EASTERN RAILWAY.

Calcutta and South-Eastern.

39. This line (with the exception of the Piallee bridge) was completed and opened for traffic in March last, 15 miles having been previously opened early in 1862. Its opening had been delayed by an accident on the Piallee bridge, which impeded the progress of that work. The traffic was not commenced under advantageous circumstances, having been checked by the want of proper access to the stations, by the break at the Piallee bridge, and by the terminus being at present in a new and unpopulous district. All these impediments will, however, be gradually removed. The cost of the line has also been more than was expected, partly in consequence of the great increase in the price of labour since it was commenced, and partly by the great outlay involved in crossing the Piallee river by the plan adopted. Not only had the old river bed to be filled up, but a new channel had to be cut, and a bridge thrown over it. It was some time before the subsidence of the embankment ceased; but, by the last accounts, it had become sufficiently solid to admit of the rails being laid, and of trains being run over it.

40. It has been proposed to construct, with unguaranteed capital, a branch line to connect the present railway with the granaries and populous districts lying to the south of it. Such a line would greatly augment the traffic on the main line.

The number of passengers conveyed since the opening to the 31st December 1862, was,—

First class - - - -	687
Second class - - -	2,513
Third class - - - -	82,590
Total -	85,790

GREAT SOUTHERN OF INDIA RAILWAY.

Great Southern.

41. This railway has been working steadily and without accident during the year. The traffic is slow in being developed, but the increase, while small, is gradual, and the cost of working the line has been brought down to the proportion of 44 per cent. of the gross revenue. This is exclusive, however, of the charge for maintenance.

The principal goods traffic is in salt and grain. The passengers conveyed during the year ending 30th June 1862 were as follows:—

First class - - - -	1,608
Second class - - -	4,071
Third class : - - -	211,191
Total - -	216,870

42. The following Table shows the receipts and expenses for the half-years ending 31st December 1861, and 30th June 1862, respectively:—

Period.	Receipts.			Expenditure.	Net Receipts.	Per centage of Working Expenses to Revenue.
	Passengers.	Goods, &c.	Total.	Working and Maintenance.		
	£	£	£	£	£	
Half-year ending 31st December 1861 - - - -	1,755	1,716	3,471	1,647	1,824	47·44
Half-year ending 30th June 1862 - - - - -	6,288	3,440	9,728	4,323	5,405	44·45
Year ending 30th June 1862 - - - - -	8,043	5,156	13,199	5,970	7,229	45·23

THE GENERAL WORKING OF THE LINES.

General Traffic.

43. The general position and progress of the traffic will be seen in one view in Colonel Baker's interesting diagrams appended to this report.

44. The net receipts from all the open lines for the year ending 30th June 1862 were about 434,000*l.*, against 311,367*l.* of the previous year.

45. The numbers of passengers conveyed in the same periods were 6,484,338 and 4,912,955, respectively.

46. The traffic has, upon the whole, been conducted with regularity and safety. The absence of the usual returns from India prevents me from giving a list of the accidents that have happened, but I am not aware of any that have proved fatal to passengers. Fire has, in some instances, destroyed goods, while in transit, to a considerable extent. The propriety of establishing a fund to cover such risks is now under the consideration of the different Boards.

47. The present changeable condition of the lines makes it very difficult to draw any satisfactory conclusions, as to their real value. While some are partially finished, and extending in length every few months, while others are finished, but are without access to the stations, and while it is uncertain what will be the cost of the permanent establishments, and what the expenses of maintenance, it is impossible to estimate, with any degree of accuracy, their remunerative powers. In his last Report on the Bengal division of the East Indian Railway, Mr. Power, the present Chief Engineer, remarks, "the system here adopted of "opening a part of the line so soon as the safe passage of a train is practicable, "but before the station buildings, permanent watering arrangements, and other "essentials to the convenient and economical working of a line are completed, is "attended by the all important advantages of rendering the communications of "the country easy and the property of the Railway Company reproductive, at a "much earlier period than would otherwise be the case; but it has the disadvan- "tages of slightly increasing the cost, and greatly retarding the period of final "completion. It also adds much to the difficulty of managing the traffic, and it "reverses the usual order of events as regards the cost of maintenance, rendering "it more expensive in the earlier than in the latter stages of the working of the "line."

48. It may here be mentioned, in connexion with the question of maintenance of way, that, as with ships in Europe, so with railways in India is the relative value for sleepers of iron and wood, and of the two combined, being tested. On several lines the wood which has been used has rapidly decayed, and it has been found expedient to try iron as a substitute. By some people the use of iron sleepers is objected to, as producing an injurious effect upon the locomotives and rolling stock. This apprehension, however, has not been borne out by the experience hitherto gained in India. A sufficient number of iron sleepers for 755 miles has been sent out by the following companies, after obtaining the opinions of their Consulting Engineers, who expect a great saving in the cost of maintenance :— Sleepers.

Railway Company.	No. of Miles.	Consulting Engineers.
East Indian - - -	97	A. M. Rendel, Esq.
Great Indian Peninsula -	132	G. Berkeley, Esq.
Madras - -	401	J. Hawkshaw, Esq.
Punjab - - -	125	G. P. Bidder, Esq.

49. The necessity for substituting iron may, to some extent, be attributed to the high price of wood in India as well as to its tendency to decay. The high price has caused surprise; but it is owing to the difficulty and expense of conveying the timber, when hewn, to its destination, and to the absence of any competition among those who are accustomed to the business. It has, under these circumstances, been found cheaper to send out from this country creosoted sleepers, made of Baltic timber, than to use those made of indigenous wood. It is satisfactory to learn that this state of things may soon be altered, as measures have lately been taken by the Government of India for organizing a new system of administration for the management and conservation of forests, with the view of making their produce available for the railways and other public works of the country.

50. The following statement shows that the amount which had been paid to the several Companies for guaranteed interest up to the 31st December 1862 was 8,269,190*l.* This sum is subject to a deduction of about 1,600,000*l.* which the Government had received from the earnings of the railways, leaving a debt of about 6,650,000*l.* against the Companies. Guaranteed interest.

51. The annual amount that will be due from the Government for guaranteed interest, when the lines are finished, may be taken at 3,000,000*l.*; but the profits per mile per week of the lines are now rapidly increasing. A considerable portion of the above sum will consequently be met by the payments into the Government treasuries in India. The liability of Government will thus diminish annually, until at last Government will be altogether relieved from it.

52. The amount of gross mileage receipts which should be earned by the Companies to relieve the Government from the payment of guaranteed interest varies, of course, with the cost of constructing and of maintaining and working each mile; but, taking the aggregate amount of capital to be expended upon 4,600 miles to be 60,000,000*l.*, the gross receipts necessary to earn the guaranteed interest, supposing that 50 per cent. is sufficient for maintenance and working, would be 6,000,000*l.* a year, or about 1,300*l.* a mile a year, or 25*l.* per mile per week. Take, for example, the East Indian and the Great Indian Peninsula lines. The gross receipts of the East Indian, when the line is completed, should be about 36*l.*, of the Great Indian Peninsula about 25*l.* per mile per week, to yield 5 per cent They are now both earning upwards of 22*l.*, and are gradually increasing their receipts every month.

STATEMENT, showing the Amount that has been paid to the several Railway Companies for Guaranteed Interest up to the 31st December 1862.

Company.	Interest paid up to 31st December 1861.	Interest paid during 1862.						Total Amount paid to end of 1862.
		England.		India.		Total.		
	£ s. d.	£ s. d.		£ s. d.		£ s. d.		£ s. d
East Indian	3,285,587 18 0	918,462 6 6		9,093 1 9		927,555 8 3		4,213,143 6
Great Indian Peninsula	1,363,263 13 5	401,891 3 10		18,060 13 4		419,951 17 2		1,783,215 10
Madras	894,204 6 4	262,893 17 10		—		262,893 17 10		1,157,098 4
Scinde	194,994 6 6	68,928 7 2		1,035 15 0		69,964 2 2		264,958 8
Punjaub	100,459 11 11	61,454 10 3		331 18 11		61,786 9 2		162,246 1
Indus Flotilla	35,511 5 1	15,928 8 0		—		15,928 8 0		51,439 13
Bombay and Baroda	285,944 8 1	117,337 3 1		1,082 16 5		118,419 19 6		404,364 7
Eastern Bengal	75,727 14 9	61,696 1 9		356 13 6		62,052 15 3		137,780 10
Calcutta and South-Eastern	20,643 13 6	14,413 1 11		1,116 11 5		15,529 13 4		36,173 6 1
Great Southern	30,558 7 0	28,212 7 5		—		28,212 7 5		58,770 14
	£6,286,895 4 7	£1,951,217 7 9		£31,077 10 4		£1,982,294 18 1		£8,269,190 2

53. The time is now approaching when the benefits of these great works will be sensibly felt. Not only have they already been the means of introducing into the country and of circulating amongst its labouring population many millions of money, but as the result of that outlay and labour they remain to bring forth abundant fruit for ages to come. They will all, I trust, ultimately, and some before many years, prove remunerative in themselves; but their political, commercial, and social advantages will be immediately apparent, and they will pave the way for introducing further capital and enterprise into the country. It is something to have already raised the condition of the labourer by increasing his wages 60 or even 80 per cent; and it is something to have enabled upwards of six millions of people to have travelled by railway in twelve months, who, ten years ago, had not seen a locomotive engine. It is something, also, to have earned nearly two millions since the lines were opened. But the time is coming when greater effects than these will be seen. In another year the great cotton fields of Central India and of Guzerat will be in direct communication with Bombay, and Delhi will be within two days reach of Calcutta. In many districts where there was no certain communication before, there will now be a sure and rapid one, and in places before unknown to the merchant will now be established markets where no interchange of commodities has yet taken place.

I have the honour to be, Sir,

Your most obedient servant,

JULAND DANVERS.

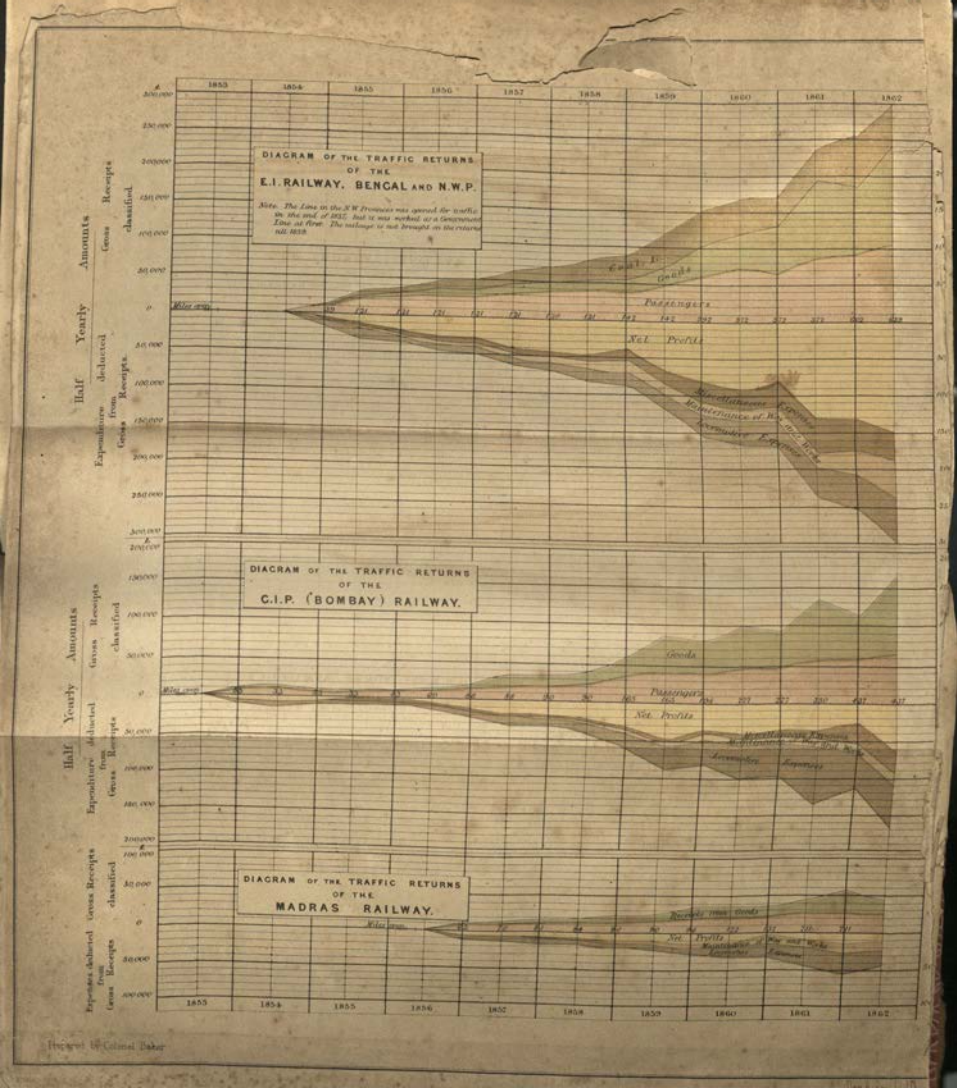
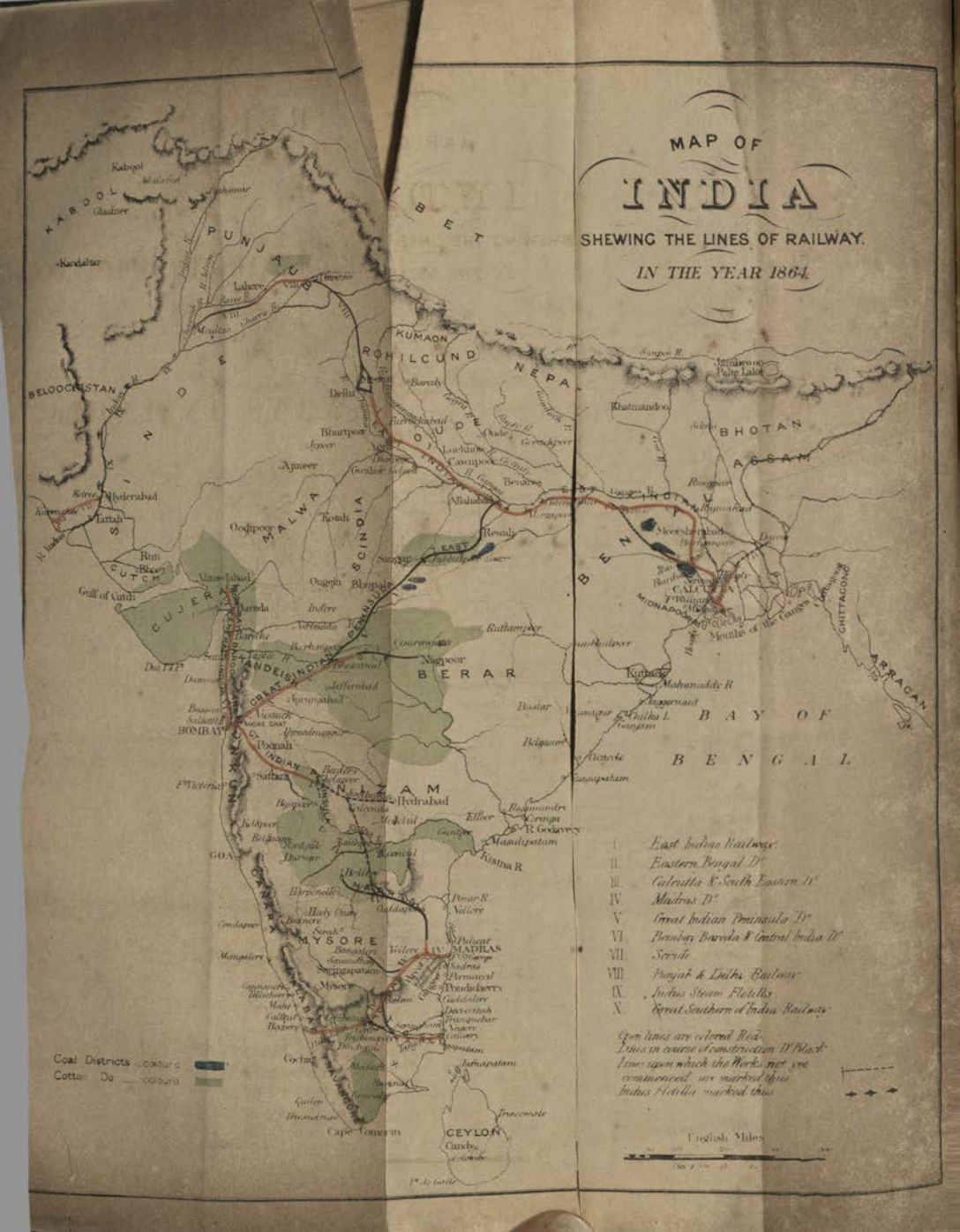


DIAGRAM OF THE TRAFFIC RETURNS OF THE E.I. RAILWAY. BENGAL AND N.W.P.
Note. The Line in the N.W. Provinces was opened for traffic in the end of 1857, but it was worked as a Government Line at first. The mileage is not brought on the returns till 1858.
Half Yearly Amounts
Gross Receipts classified
Expenditure deducted from Gross Receipts
Miles open
Goods
Passengers
Net Profits
Miscellaneous Expenses
Maintenance of Way and Works
Locomotive Expenses
DIAGRAM OF THE TRAFFIC RETURNS OF THE C.I.P. (BOMBAY) RAILWAY.
DIAGRAM OF THE TRAFFIC RETURNS OF THE MADRAS RAILWAY.
Receipts from Goods
1853
1854
1855
1856
1857
1858
1859
1860
1861
1862

Engraved by Colonel Baker


MAP OF
INDIA
SHEWING THE LINES OF RAILWAY.
IN THE YEAR 1864.
I. East Indian Railway
II. Eastern Bengal D°
III. Calcutta & South Eastern D°
IV. Madras D°
V. Great Indian Peninsula D°
VI. Bombay Baroda & Central India D°
VII. Scinde
VIII. Punjab & Delhi Railway
IX. Indus Steam Flotilla
X. Great Southern of India Railway
Gov.t lines are colored Red.
Lines in course of construction & Black
Lines upon which the Works not yet commenced are marked thus
Indus Flotilla marked thus
Coal Districts ... colours
Cotton Do ... colours
English Miles
KABOOL
PUNJAUB
SINDE
BELOOCHISTAN
TIBET
NEPAUL
BHOTAN
ASSAM
BENGAL
MALWA
GUJERAT
CUTCH
Gulf of Cutch
BERAR
NIZAM
MYSORE
GOA
CANARA
MALABAR
COROMANDEL
BAY OF BENGAL
Cape Comorin
CEYLON
Kaboul
Candahar
Lahore
Delhi
Agra
Allahabad
Bhurtpoor
Ajmeer
Hyderabad
Tattah
Oodipoor
Kotah
Oojein
Bhopaul
Indore
Baroda
Surat
BOMBAY
Poonah
Sattara
Hydrabad
Kistna R.
Belgaum
Vellore
MADRAS
Pondicherry
Trincomalee
Candy
Calcutta
Mouths of the Ganges
Darjeeling
Khatmandoo
Mahanuddy R.
Cuttack
Ganjam
Vizagapatam
Rajamundry
Ellore
Guntoor
Nagpoor
Jubbulpore
Rewah
Benares
Lucknow
Cawnpoor
Meerut
Umballa
Loodiana
Ferozepore
Mooltan
Jhelum R.
Indus R.
Sutlej R.
Ravee R.
Chenaub R.
Gogra R.
Sone R.
Nerbudda R.
Taptee R.
Godavery R.
Kistna R.
Pennar R.
Cauvery R.
Palar R.
Hooghly R.
Damooda R.
Mahanuddy R.
Brahmapoutre R.
Megna R.
Irrawaddy R.
Sangor R.
Kemmendine
Rangoon
Martaban
Tenasserim
Moulmein
Akyab
ARRACAN
CHITTAGONG

APPENDIX.

PROCEEDINGS at the Official Opening of the BHORE GHAUT INCLINE, on the GREAT INDIAN PENINSULA RAILWAY, Bombay, Tuesday, 21st April 1863.

The following Address from the Committee of Railway Directors in Bombay to His Excellency the Honourable Sir HENRY B. E. FRERE, K.C.B., Governor of Bombay, was read by Mr. BICKERSTETH, the Chairman of the Committee,

HONOURABLE SIR,

AFTER a period of more than eleven years, during which the Engineering Staff of the Great Indian Peninsula Railway have been constantly and arduously engaged in surveying and superintending the construction of the Bhore Ghaut Incline, the Directors have at last the satisfaction of being able to report its completion, and have demonstrated by actual experiments its full capabilities for the purpose for which it was designed, and they, therefore, confidently invite your Excellency to declare it open for public traffic.

From the time when the lines of the Great Indian Peninsula Railway were first projected, it was apparent that the great practical difficulty to be overcome was the connexion of the Concan and Deccan lines by a line of railway which must ascend the great range of the Western Ghauts; and that the first step to be taken was to find the route by which that barrier could best be surmounted.

It was originally intended to have only one railway over the Ghaut, from the top of which the North-Eastern line towards Nagpore and Calcutta, and the South-Eastern to Poonah and Madras, should diverge; and with this view the Malsej Ghaut, which lies between the Bhore and Thull Ghauts, was selected by the late Mr. Chapman, and in 1846 and 1847 surveyed by Messrs. Clark and Conybeare. Could this line have been adopted, doubtless a large outlay of capital would have been avoided, and with little practical inconvenience. It was, therefore, Mr. Berkley's earliest duty, on his arrival in India as Chief Resident Engineer to the Company in 1850, to examine this route. This investigation resulted in the abandonment of the Malsej Ghaut Incline, on account of the almost insuperable difficulties which the ascent of the Ghaut by that route presented; and the Thull and Bhore Ghaut Inclines, the one for the North-Eastern and the other for the South-Eastern lines, were determined on as those which would afford the most favourable ascent, and at the same time would best meet the requirements of the country.

The first incline up the Bhore Ghaut was laid out in 1852. It followed the north side of the spur which connects the main Ghaut with the Concan, instead of the south side as now, and it included an incline plane of 1 in 20 1⅛ mile long, to be worked by stationary engines. The length of this incline was 13½ miles, but the season's operations showed that it was practicable to lay out a continuous locomotive gradient from the base to the summit of the incline.

In the following season, after various other Ghauts had been examined, the further surveys of the Bhore Ghaut were resumed. By increasing the length on the incline on the lower portion of the Ghaut, and the introduction of the Reversing Station, which was made in 1854 (and still further extended in the following season), great improvements were effected on the original line; and in 1855 the preliminary operations were completed, and the Incline laid out nearly as constructed, a few alterations and improvements being introduced during the progress of the work.

The construction of the Bhore Ghaut Incline was let by contract to Mr. W. F. Faviell during the autumn of 1855, and the works were commenced on the 24th of January 1856. In June 1858, two miles of the upper part of the Incline from Khandalla to Lanowlee were opened for traffic, which has since been worked regularly and satisfactorily over that length with gradients of 1 in 40 and 1 in 50.

In March 1859 Mr. Faviell relinquished his contract, and the Company carried on the works under the management of their Resident Engineers, Messrs. Adamson and Clowser, until the following November, when Mr. Solomon Tredwell, to whom the contract had been re-let in England (in the previous August), commenced operations. The works were transferred to him on the 16th of November, but he had hardly completed the investigation of his contract and devised his plans for carrying on his operations on a scale adapted to the magnitude of the undertaking, when he was attacked by a sudden illness, and died at Khandalla on the 30th of November. On Mr. Tredwell's decease, serious embarrassment and delay to the works would

no doubt have occurred, had not Mrs. Tredwell, with a high spirit in the midst of her affliction, conducted the business of the contract, until, in the month of March 1860, Messrs. Adamson and Clowser were permitted to resign the Company's service, and accept the office of Contractor's Managers, Messrs. West and Tate being appointed Resident Engineers on the part of the Railway Company.

The remainder of that season, however, was nearly lost through a visitation of cholera, which lasted for two months, and occasioned great mortality amongst the work-people. In the two following working seasons, the average number of work-people employed was more than 25,000, and in March 1861 more than 42,000 men were employed upon the works.

The length of the Incline, from the base to the summit, is 15 miles 68 chains. The level of its base is 196 feet above the sea, and of its summit 2,027 feet; so that the total elevation surmounted by this Incline is 1,831 feet, the average gradient being 1 in 48, and the steepest gradient 1 in 37, for 1 mile and 38½ chains.

The earthwork in cuttings and embankments executed upon the Incline has amounted to 4½ millions of cubic yards; (or 285,240 cubic yards per mile over the whole length of the Incline).

Several of the embankments exceed 60 feet in height, and many of the outer slopes are 150 feet in length, and some of them as much as 300 feet. The greatest depth in the centre line of cuttings is 74 feet, and in one cutting the excavation on the upper side is nearly 150 feet deep through solid rock.

The total length of tunnels is [3,985 lineal yards or rather] more than 2¼ miles. There are [3,640 lineal yards or] more than two miles of retaining walls, and the total length of the viaducts and vaulting arches is (1,330 yards or) about three-quarters of a mile.

The principal viaducts are No. 1, of 8-50 feet arches and 129 feet from the surface of the ground; and No. 5, or Mhow-kee-Mullee viaduct, of 8-50 feet arches and 143 feet from the surface. The other viaducts range from 100 to 50 feet in height.

The works have been seven years and a quarter under construction, and about four years were spent in preliminary operations.

This brief history of the Bhore Ghaut Incline must not be closed without expressing the deep regret of the Directors and all connected with this Railway, that he who originated and and designed these great works did not live to see their successful completion; but though he is gone his works remain, and of him they silently speak, and proclaim his great genius more eloquently and more impressively than any language; and not only do his works remain, but we are still surrounded by that chosen band of accomplished engineers, imbued with his own zeal, whom he had the singular fortune to attach to himself. To one of those, Mr. Graham, who has already proved himself a worthy successor to his lamented chief, is due the merit of perfecting and completing these great works, which, with all the other lines of the Company, have been under his superintendence ever since Mr. Berkley left India.

Messrs. Adamson and Clowser too were pupils of Mr. Berkley's; they were long connected with this Incline as the Company's Resident Engineers, and it was at his suggestion that, soon after Mr. Tredwell's death, they were permitted to undertake the duties of Contractor's Managers and the actual construction of the line they had up to that time superintended on behalf of the Company.

How ably and with what energy they have devoted themselves to the accomplishment of their arduous undertaking, is known to all who have had any opportunity of watching their operations; and the Directors think that the remarkable progress which has been made since they inspected the works a few weeks ago in your Excellency's company, when we were with difficulty able to walk through several of the tunnels and cuttings through which trains have now been run, must evidence to those who had no other opportunity of witnessing it, what great efforts Messrs. Adamson and Clowser are capable of, and have achieved.

It is not only the loss of their own Chief Resident Engineer during the progress of these works that the Directors have had to deplore; the death of Colonel Crawford, long the Consulting Engineer to Government, was deeply felt by all who were in any way connected with him.

To his successor, Colonel Rivers, the grateful acknowledgments of the Directors are especially due for the cordial assistance and able advice he has at all times willingly rendered them, and they sincerely trust that the Company may long enjoy the advantages which result from Colonel Rivers' official connexion with it.

The Directors beg in conclusion to tender to your Excellency their thanks for the warm interest your Excellency has taken in the progress of the great works the completion of which we celebrate to-day, whereby all engaged upon it have been greatly encouraged in their labours; and they desire to request that they may be permitted permanently to connect your Excellency's name with the Bhore Ghaut Incline, by recording the opening of the line by your Excellency upon a tablet to be erected in some prominent situation on the Incline.

His Excellency the Governor replied as follows:—

Mr. Chairman and Gentlemen of the Board of Directors,—It is a matter of extreme gratification to me, both personally and on public grounds, to accede to your request. I have watched the progress of this work since the idea of a railway to connect Bombay with the interior first occurred to Mr. Clark in the early part of 1844. I am glad to see among you this day some gentlemen who took an active part in promoting the scheme from its very

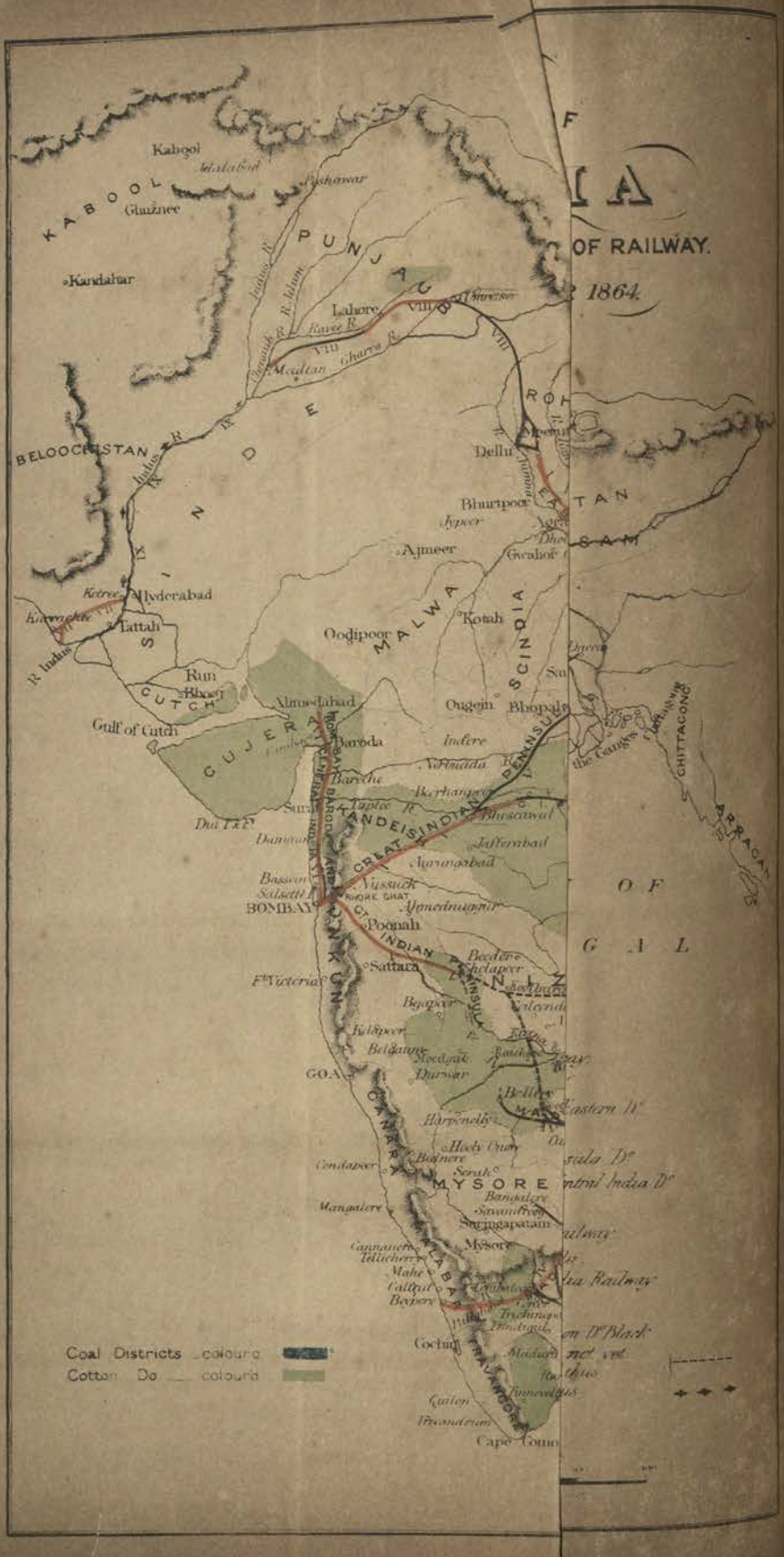
beginning; and it is with a feeling of deep thankfulness to the Almighty Disposer of all things, that I find myself now, as head of this Government, enabled to declare this great work, the Bhore Ghaut Incline—the turning point of the whole undertaking—finished and fitted for public traffic. The first notice that I find on regord of any attempt to improve the means of communication in this direction dates in the early part of this century. The Duke of Wellington, then in command of our forces in the Deccan, with that foresight which seems to have been a part of his nature, saw the importance of improved communication with Bombay, and caused the old Bhore Ghaut to be made practicable for artillery, and what was then considered to be a good military road to be constructed from the head of the Ghaut to Poona. You may yet, I believe, find traces of this road the whole distance a little to the south of the line, which is now the old post road, and be told that the massive stone ramps which mark the nullah crossings were the work of Wellesley Sahib. It is nearly thirty-three years since Sir John Malcolm himself, a friend and companion of the Great Duke, opened the Ghaut for cart traffic. In a minute which he recorded on the subject, and a copy of which was shown me by Mr. Frere as we came up the Incline, he thus speaks of the work. The minute is dated 23rd November 1830. "On the 10th of November I opened the Bhore Ghaut, which, "though not quite completed, was sufficiently advanced to enable me to drive down with a "number of gentlemen in several carriages. The height of the mountain is nearly 2,000 feet, "and the length of the road is 3¾ miles. It is impossible for me to give a correct idea of this "splendid work, which may be said to break down the wall between the Concan and the "Deccan. It will give facility to commerce, is the greatest of conveniences to troops and "travellers, and lessens the expense of European and other articles to all who reside in the Deccan. "This Ghaut will, besides, prove a positive creation of revenue, for I am satisfied from the "decrease of hamallage, and the offers already made to farm the duties, that the first year will "produce twenty thousand rupees, and that the ordinary revenue will hereafter rise to more "than thirty thousand; while on any military operations occuring in a quarter which required "the troops in the Deccan to move, the outlay would be paid by the cheap transmission of "stores in a twelvemonth. That Government have had such a return for the lac of rupees "expended on this work is chiefly to be ascribed to the enterprise, skill, and unwearied "industry of the contractor, Captain Hughes, who, in his desire to do credit to himself, will "be found, I believe, when the completion of the work is reported (which it will be before the "1st of January) to have done more, particularly in the breadth of the road, than the terms "of the contract made obligatory. He has built, at his own cost, a small but neat lodge at the "gateway, where the duties are to be levied, and on this he has inscribed in a small marble "slab the year in which the work was made. I wish him to be instructed to place another "below it, with an incription stating that this Ghaut was constructed by Captain Hughes, and "was opened on the 12th November 1830. I shall not anticipate the approbation Govern- "ment may give Captain Hughes when the completion of the work is reported and is examined, "or the consideration they may have for any useful work he may have done beyond the terms "of his contract. This respectable gentleman will, I imagine, bring no claims upon the "Government. He is very sensible to the favour and indulgence with which he has been "treated in being aided with the detachment of pioneers for a few months; but he merits the "most liberal encouragement, for he has not only executed in a superior manner a work of "great importance, but has set an example, which if followed will be attended with all the "beneficial results that must attend the establishment of contracts for such public works, to "all who reside in the Deccan." He then speaks of the work as an absolute creation of public revenue, and of its immense value in a military point of view. These are the words of one whose name will long live in honoured memory as one of the wisest and most far-seeing of modern Indian statesmen. I quote them, not merely to contrast our present appliances and facilities with those which he thought so great and important an improvement in the then existing facilities for transport, but as calculated to inculcate a lesson of humility in judging of the improvement, of our own day, and as showing how little the most far-seeing among us can calculate what results a single generation may bring forth. When I first saw the Ghaut some years later, we were very proud in Bombay of our mail-cart to Poona, the first, and at that time I believe the only one, running in India; but it was some years later before the road was generally used for wheeled carriages. I remember that we met hardly a single cart between Khandalla and Poona; long droves of pack bullocks had still exclusive possession of the road, and probably more carts now pass up and down the Ghaut in a week than were then to be seen on it in a whole year. But the days of mail-cart and bullock-cart, as well as the bringaree pack bullock, are now drawing to a close. Of the great work, the Bhore Ghaut Incline itself, you have stated in your address some of the principal statistics. I will not attempt to analyze their marvellous results. Were I to tell you that the bulk of so many pyramids was contained in the earthwork and masonry of the embankments—that it would take so many times all the bridges of London to equal the viaducts—or were I to compare the bulk of the stone quarried with the breakwaters of Plymouth or Portland—I could give you but an imperfect idea compared with that which we all have derived from traversing the Incline this day. Nor could any description give to the uninitiated a notion of the difficulties you have had to overcome. Military men who know what it is to organize and to feed an army of 10,000 men, may have some notion of the difficulties of organizing, feeding, and working a multitude of labourers, averaging, for years together, 25,000 men, and rising to the enormous number of 42,000; but most of us must be content with the impression we have this day derived, and it

is, I am sure, an impression which can never be effaced, of that which may, I believe, without exaggeration, be described as the greatest work of its kind in the whole world. (Cheers.)

I feel assured, gentlemen, that in future ages the works of our English Engineers on these Ghauts will take the place of those works of their demigods, the great cave Temples of Western India, which have so long to the simple inhabitants of these lands been the type of superhuman strength, and of more than mortal constructive skill. Mr. Graham and Colonel Rivers will probably not allow me to say, that this Incline will ever remain among the greatest works of its class; they know the almost unlimited resources of their science, and will tell us that the greatest engineering triumph of to-day may be surpassed ere the present generation has died out. But the effects of these works on the fortunes of India are, I believe, destined to be far more important than merely supplying a theme for popular admiration, or the substance of a popular proverb. I do not speak merely of their effect on commerce and material prosperity. It is scarcely possible to exaggerate the importance of the railway in this respect, but this effect is so obvious and immediate that it hardly requires to be pointed out. Equally unnecessary would it be to dwell on the value of the railway as a military machine. Some of us have served with the men of our old European regiments, who marched with but one halt from Panwell to Poona to fight the battle of Kirkee; and all of us can estimate the immense military and political advantages of a work which will connect all the capitals of India, and place the garrisons of Madras and Bombay as close to each other in point of time as those of Poona and Bombay were within living memory. It is no exaggeration to say, that the completion of our great lines of Railway will quadruple the available military strength of India. Nor would I even dwell on the manifold blessings which will attend the work as mitigating some of the severest evils which can afflict humanity. We all of us know, either from our own experience, or from that of our friends, how great is the blessing of such ready and easy means of intercourse between distant points—the fever-stricken patient who longs for the cool sea breeze, or the wearied man of business who needs the bracing climate of the Deccan, need no longer experience, with a feeling akin to despair, the impossibility of moving; and every class, the roaming foreigner from a far land as well as the home-loving native of India, will have reason to bless the facilities which the Railway affords, for cheap and easy locomotion. But in addition to and above all these, this work will, I believe, be productive of moral effects in comparison with which its vast physical results may be literally said to be insignificant. You alluded in your address to some of those not now present among us, to whom the great work is most beholden. You spoke in fitting terms of him whose genius devised its great features, and who animated with his own spirit those who have given bodily form to his conceptions; you referred in terms of well-merited regret to him whose judgment and firmness, united to a kindly and sympathizing nature, enabled the Government and Engineers of the Company to work together with a harmony and practical energy unknown in other undertakings. And you did no more than fitting honour to the brave Englishwoman who, in the midst of her own sore affliction, thought more of her husband's honour than her own distress, and carried on a work the magnitude of which might well have appalled a Titan of old. It may be that the name of Mr. Berkley, of Colonel Crawford, and of Mr. Tredwell, may not survive the living memory of the present generation; but, we may rely on it, their example is not lost, and that it will be as nearly immortal as human example may be in that peculiar characteristic which they have all in common, and which forms the backbone of our national strength—their noble devotion to their duty. I may not now refer to other examples of those still amongst us, which will I believe be equally permanent. But I cannot let the occasion pass without tendering to all you have named as having had a prominent part in this great work, to Mr. Graham and to all his staff, to Messrs. Adamson and Clowser, and to Colonel Rivers, the cordial thanks of Her Majesty's Government for their share in this great undertaking. There is one point to which I cannot but advert, because I believe it calculated to exercise a permanent influence on the future of India. I need not now remind my countrymen that we of the Western world have the character of being a stern and heavy-handed race. Among the many difficulties which beset, or were supposed to beset, the introduction of railways into this country, was usually placed foremost the difficulty of controlling a large number of independent Englishmen—not like our soldiers, bound by the ties of military discipline—not in any way prepared to submit their own will to the mere dictates of authority. We have now ample experience to enable us to judge what foundation there was for such apprehension, and what has been the result? I do not pretend to say that there have not been exceptions; among the many hundreds of Englishmen who have been employed on these works, it would be strange if there were not some who possessed the more animal instincts of courage, strength, and capacity for physical exertion, in a higher degree than that inclination to take the weaker side, the love of truth and of fair play, on which as a nation we pride ourselves. But looking at the general results, and considering the effects which this invasion by a small army of Englishmen has produced on the country, I think there cannot be a doubt, not only that the fears which some people entertained were entirely chimerical, but that the lower ranks of this railway army, as well as the higher, have left a deep and beneficial impression on the population among which they have been employed; and that the result is one for which our countrymen of all ranks in your service, the artisans and mechanics, as well as the gentlemen on the engineering staff, richly deserve the gratitude of the Government and of their country. So far from its being the case that the bonds of official discipline are necessary to prevent the growth of ill feeling between the Saxon stranger and the natives of India, I find the employment

afforded by the non-official contractor almost invariably more popular than that of Government; and, if we were both bent on raising an army, I doubt if Government could have more formidable rivals than Messrs. Adamson and Clowser. I know of no sight more impressive, or more full of suggestive topics to any one who reflects on the future of India, than such a visit as I lately paid to the contractors' works before they were finished. It was then easy to see how railway works taught the native labourer habits of method and punctuality, habits of truth and honesty in his work, and above all habits of independence. It is in this last respect more than in any other that I believe these railway works will have an immense influence on the future of India. We all know what vast sums, chiefly of English capital, have of late years been spent in this country. Let us consider for one moment what has been the effect of all this money being spent, in giving a fair day's wages for a fair day's labour. I can safely say that, as a rule, this was unknown before the commencement of what I may call the Railway Period; not only were wages in most parts of the country fixed by usage and authority, rather than by the natural laws of supply and demand, but the privilege of labour was in general restricted to particular spots, and nothing like the power of taking his labour to the best market practically existed. This was partly due to custom, partly to the absence of any but agricultural employment, partly to long ages of despotic and unsettled government. But the result was, that the condition of the mere labourer was wretched in the extreme, and the past efforts of Government could do but little to raise him above the status of a serf of the soil. All this has now, I am happy to say, changed, mainly as a direct consequence of these vast railway works; and for the first time in history the Indian Cooly finds that he has in his power of labour, a valuable possession, which, if he uses it right, will give to him and to his family something better than a mere subsistence, and that there are means open to him of rising in the world other than by the career of a fortunate soldier, or of the chance favouritism of princes. And what has been the result of this discovery to him? Has it made him more indolent, less inclined to labour, more content to be satisfied with the mere existence which he can now procure with less labour than formerly? I believe there is no one who has any experience in the matter, who will not bear me out in saying, that this is not the case; the labourer is, of course, more independent,—he is in a better position to make his own terms with his employer, and that is perhaps sometimes shown in a manner which the employer does not quite like; but, as a general rule, I believe the labourer works far harder, and acquires new and more civilized wants, in proportion to the high wages he receives. But the effect is not limited to the labourer while he is on the railway works. Follow him to his own home in some remote Deccan or Concan village, and you will find the railway labourer has carried to his own village not only new modes of working, new wants, and a new feeling of self-respect and independence, but new ideas of what Government and the laws intend to secure to him; and he is, I believe, a better and more loyal subject, as he certainly is a more useful labourer. Let us add to this effect on the labouring population, the inevitable and irresistible tendency of railways to break the bonds of caste, and to destroy the isolation in which the various classes and races of natives have hitherto lived, and you have an aggregate of moral results such as may well be the subject of grave thought to those who are interested in the future of India, and more particularly of us who have seen in our own time and on our own continent the vast effects for good or for evil which must follow any great change in the habits of life and of feeling of large masses of the people. Gentlemen, as we came up the Incline to-day, two thoughts must, I think, have forced themselves on the minds of most of us. The one was the immense importance to every one who was then travelling, or may hereafter travel, up the Incline of the general truth and honesty with which the work has been executed, and of the order and discipline which are such essential parts of railway management. As we ran over the viaducts and spun round the edges of the hills, it was impossible to help feeling how much depended on the honesty of masonry buried, perhaps, many feet deep in the earth, and on the true forging of an axle or a coupling iron, made thousands of miles away by people who rarely heard and seldom thought of India. Works such as we have this day seen are possible only under a strong, settled, civilized Government, where truth and honesty in the minutest details of ordinary work are held in habitual honour. But there was another feeling calculated to hush any national pride at such results; it was the feeling of awe from which no man can be free in the presence of such striking phenomena of nature, as the vast rocks and precipices among which the railway winds. One could not but feel the utter insignificance of man in the face of the great features of nature on so vast a scale, and the most thoughtless among us must have felt inclined to say, 'Not unto us, O Lord, not unto us, but unto Thy name be the glory." Let us trust, Sir, that the blessing of God which has carried the work thus far may rest on the work, that it may be such a permanent monument of our rule as a thoughtful patriotic Englishman may wish to see raised by his nation, and as all who love India, whatever their race or creed, may rejoice to see completed, not merely uniting distant provinces in one bond of material prosperity, but knitting together distant peoples and races under our orderly and beneficent rule, and thereby advancing the cause of civilization by means which may be blest alike to India and to England. (Loud cheers.)

And now, in the name of Her Majesty's Government, *I declare the Bhore Ghaut Incline to be open and fitted for public traffic.*



OF RAILWAY.
1864.
Kabool
KABOOL
Ghuznee
Kandahar
PUNJAUB
Lahore
Meultan
BELOOCHISTAN
SINDE
Delhi
Bhurtpoor
Ajmeer
Gwalior
Hyderabad
Tattah
Kotree
Kurrachee
R. Indus
Run
Bhooj
CUTCH
Gulf of Cutch
Ahmedabad
Baroda
Oodipoor
MALWA
Kotah
SCINDIA
Ougein
Bhopal
Indore
Nerbudda
Barche
Sura
Dhu I & F
Damaun
Bassein
Salsette I.
BOMBAY
Nussuck
RHORE GHAT
Ahmednuggur
Poonah
Sattara
Ft Victoria
Beedere
Sholapoor
Bejapoor
Kelapoor
Belgaum
Moodgul
Durwar
GOA
Harponelly
Hooly Onore
Bednore
Condapoor
Serah
MYSORE
Bangalore
Savandroog
Mangalore
Seringapatam
Mysore
Cannanore
Tellicherry
Mahe
Calicut
Beepore
Cochin
Madura
Quilon
Trivandrum
Cape Comor
Coal Districts colour
Cotton Do colour
CHITTAGONG
ARRACAN
OF
GAL

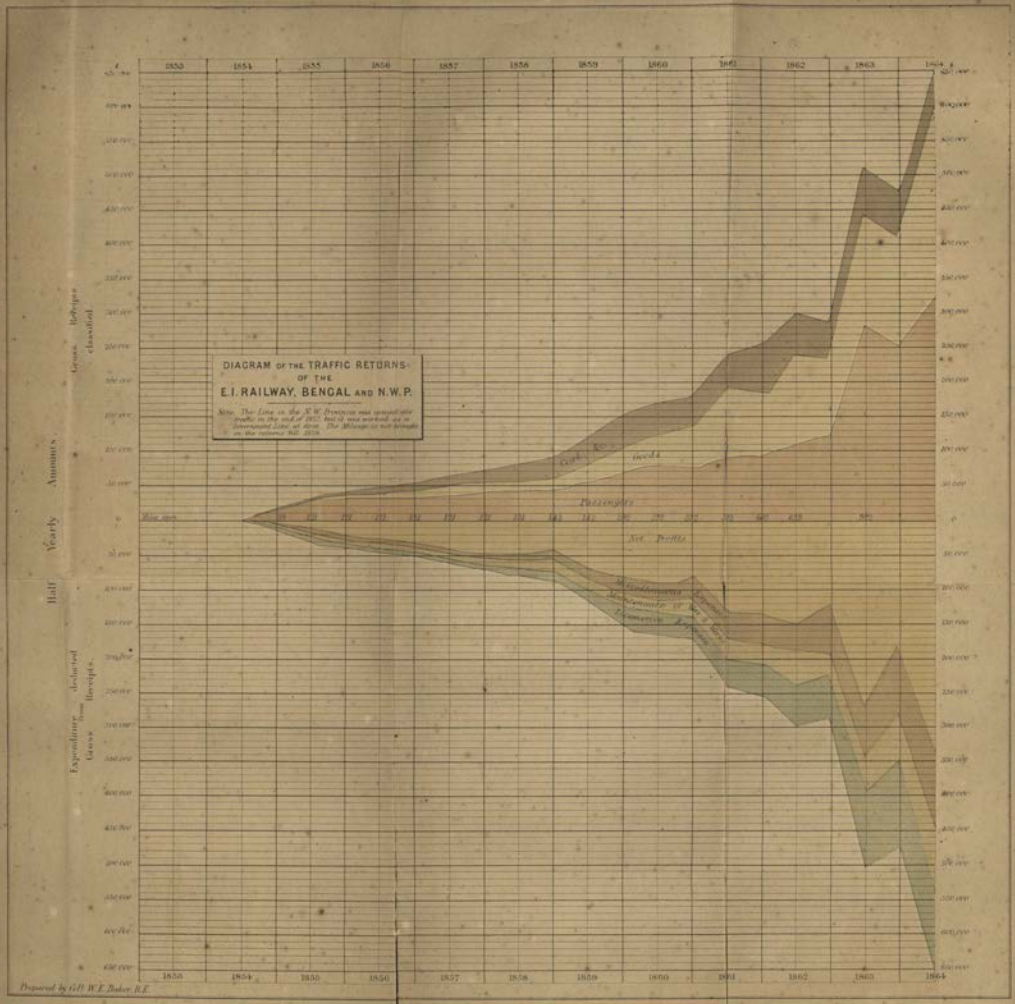
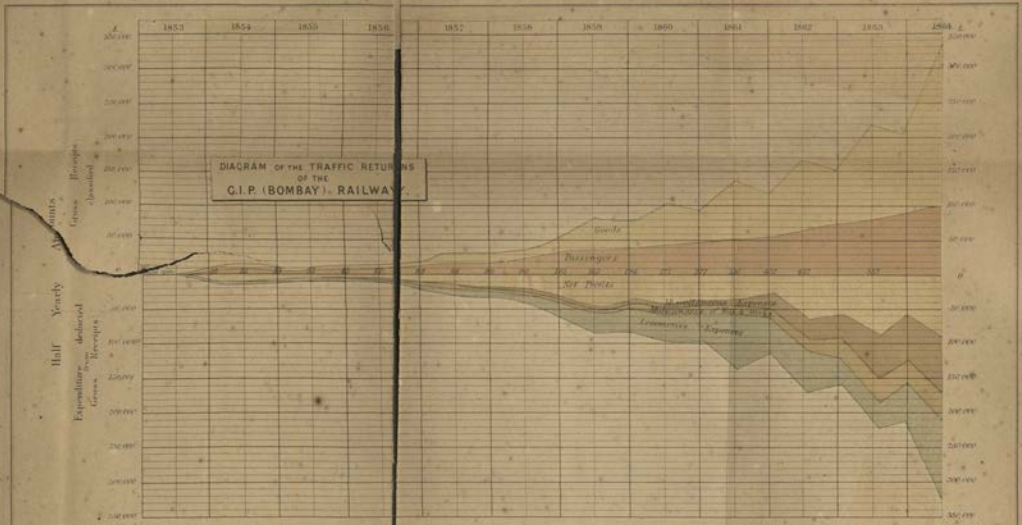
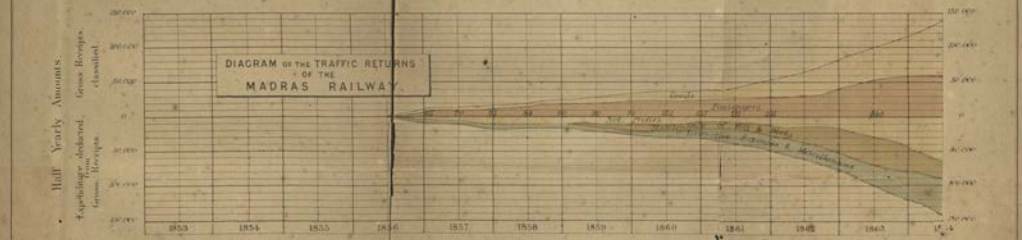


DIAGRAM OF THE TRAFFIC RETURNS
OF THE
E.I. RAILWAY, BENGAL AND N.W.P.
Note. The Line in the N.W. Provinces was opened for traffic in the end of 1862, but it was worked as a Government Line at first. The Mileage is not brought on the returns till 1858.
Half Yearly Amounts.
Gross Receipts classified
Expenditure deducted from Gross Receipts.
Gold &c.
Goods
Passengers
Net Profits
Maintenance Expenses
Maintenance of Mex. & Wks.
Locomotive Expenses
1853
1854
1855
1856
1857
1858
1859
1860
1861
1862
1863
1864
Prepared by Gill W.E. Baker R.E.

Prepared by Gd. W.E. Baker, R.E.





Prepared by Gd. W.E. Baker, R.E.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1863-64.

BY JULAND DANVERS, ESQ.,
GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
FOR HER MAJESTY'S STATIONERY-OFFICE.

5187. 1864.

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REPORT.

To the Right Honourable Sir CHARLES WOOD, Bart., G.C.B., M.P.

SIR, India Office, 31st May 1864.

I have the honour to lay before you the following Report on Railway operations in India during the year 1863–64.

2. The length of line upon which traffic is carried has been extended to 2,687¾ miles, by the opening during the year 1863 of 233½ miles, and of 125 since the 1st January last. This increase is not so great as that which was made during each of the two preceding years, when 760 and 747 miles respectively were completed. Length of line open.

3. The following Table shows the length of each line now open for traffic, and the extent which remains to be finished :—

Railway.	Total Length (approximately given) at present sanctioned.	Length opened during 1863.	Length opened since 1st January.	Total Length opened now (1st May).	Length remaining to be finished, and Extent estimated to be completed in each Year.			
					1864.	1865.	1866 and subsequently.	Total.
	Miles.							
East Indian - { *Main line -	1,144¼	131	123¾	1,121	—	23¼	—	248¼
East Indian - { Jubbulpore line -	225	—	—	—	—	—	225	
Great Indian Peninsula - -	1,266	59¼	—	553	122	136	455	713
Madras - { S.-W. line and Bangalore branch - - -	490	—	—	448¾	41¼	—	—	401¼
Madras - { N.-W. line - -	360	—	—	—	78¾	—	281¼	
Bombay, Baroda, and Central India -	312	17¾	—	185½	126½	—	—	126½
Scinde - - - - -	114	—	—	114	—	—	—	—
Punjab - - - - - -	252	11½	—	43½	208½	—	—	208½
„ Delhi - - -	320	—	—	—	—	—	320	320
Eastern Bengal - - -	112	—	2	114	—	—	—	—
Great Southern - - -	161½	—	—	79	—	—	82½	82½
Calcutta and South-Eastern - -	29	14	—	29	—	—	—	—
Total - - - - -	4,785¾	233½	125¾	2,687¾	577	159¼	1,359¾	2,100

* Exclusive of the continuation of the Raneegunge branch to the trunk line.

4. The additions made to the open line of the East Indian Railway include extensions to Allahabad and to Ghazeeabad, where the branch to Delhi strikes off, and where the junction with the Railway from the Punjab is to be effected. With the exception of the bridge over the Jumna at the former place, a continuous length of upwards of a thousand miles, exclusive of the branches, has thus been opened for public traffic. The Jumna bridge will not, probably, be finished before the end of next year.

5. The section of railway over the Bhore Ghât, on the South-Eastern line of the Great Indian Peninsula Railway, was opened on the 21st April, but it was found necessary to suspend traffic operations shortly afterwards, in consequence of slips having occurred in some of the embankments during the rains. This had

been partly expected, and the passenger traffic had, consequently, never been commenced. In November, the works had consolidated in a satisfactory manner, and the line was again opened for both descriptions of traffic.

6. The incline over the Thull Ghât, on the North-Eastern line of the same Company's undertaking, has not yet been finished, so that access to the cotton districts from Bombay still remains broken by a serious gap of 14 miles. Operations are, however, being vigorously prosecuted, and it is expected that the works will be completed by October in this year.

7. It is likewise expected that the section between Bombay and Bulsar, on the Bombay and Baroda Railway,—the non-completion of which really renders that line of comparatively little use to Bombay,—will be ready for traffic before the next cold season.

Madras and Bombay line.

8. It was mentioned in my last report that surveys were being made with the view of ascertaining the best route for a line between Madras and Bombay, which should take Hyderabad in its course. The surveys have been completed, and the Government of India has come to the conclusion that the main trunk line should go from Gooty to Sholapore, *viâ* Raichore; Hyderabad, as well as Bellary, being connected with it by a branch. The main line between Madras and Bombay will thus be seventy-five miles shorter than if it were taken by Hyderabad, and instead of traversing the comparatively uncultivated and thinly inhabited district between Cuddapah and Hyderabad, it will proceed through one fertile and populous. A glance at the map will show the relative positions of these lines.

Increased length of system.

9. It will be observed, by the table given above, that the total length of line sanctioned exceeds that formerly stated. This is accounted for by the increased length of the Punjaub and Delhi line, and of the lines between Madras and Bombay just adverted to; also by the addition of 82½ miles to the Great Southern Railway, which has been sanctioned during the past year, to enable a junction to be formed between it and the Madras Railway at Errode.

10. It is in contemplation to increase the extent still further, by continuing the Raneegunge and Barrakur branch of the East Indian Railway to some point on the main line near the Ganges. One great object of this extension is to obtain for the upper portion of the railway a cheap supply of good fuel, which the coal fields in the Kurhurbalee district would afford. It is estimated that a saving, to the amount of upwards of 50,000*l.* per annum, might be obtained thereby. But it would also have the effect of turning the branch into the direct main line, considerably reducing the distance between Calcutta and Allahabad, and so relieving the traffic on the circuitous route by Rajmahal, that there would be no necessity, for the present at least, to double the line between that place and Calcutta.

11. This increase of length to the system of guaranteed lines must necessarily require a proportionate increase of capital, as will be presently shown.

Opening of unguaranteed branch line.

12. I may here mention that the first unguaranteed railway, from the Nulhattee station, on the East Indian line, to Azimgunge, constructed by the Indian Branch Railway Company, was opened on the 21st December last. It is about 27 miles in length, and made for a single line, with a gauge of 4 feet, and rails 30 lbs. per yard. The traffic had not fairly commenced at the end of the year.

Progress on lines not opened.

13. Besides the completion during the past year of the 233 miles above referred to, the works have been going on vigourously on the lines in course of construction. Of the 3,360,000*l.* expended in the course of the year in India, probably only about 600,000*l.* or 700,000*l.* has been employed on the sections which have been opened for traffic.

Operations in this country.

14. In this country also progress has been made. The iron superstructure for some of the bridges has been manufactured, and, with rails, sleepers, locomotives, and stores of various kinds, has been shipped to India.

15. The following Table will show the extent of these operations, which nearly correspond with those of last year, when 280 ships were employed to convey 138,013 tons of goods, of the value of 1,487,582*l.*:—

Shipments.

Railway Company.	Number of Ships employed in 1863.	Amount of Goods in Weight and Measurement shipped in 1863.	Value of Goods shipped in 1863.	Amount paid for Freight and Insurance in 1863.
		Tons.	£	£
East Indian	47	47,380	527,447	74,864
Great Indian Peninsula	36	8,144	165,390	21,248
Madras	85	62,672	261,281	87,663
Bombay, Baroda, and Central India	57	26,235	195,336	47,905
Scinde	35	4,414	36,122	9,452
Punjaub		14,021	81,686	17,630
Indus Flotilla		288	2,175	590
Delhi	—	—	—	—
Eastern Bengal	11	173	7,099	330
Great Southern	3	2,293	3,710	3,758
Calcutta and South-Eastern	5	1,220	5,218	2,028
Total	279	166,840	1,285,464	265,468

Added to the shipments of former years, a total of 2,764,781 tons of railway materials, of the value of 15,128,856*l.* have been sent out to India from this country in 3,571 ships. In both cases the amounts were recovered from the underwriters.

16. During last year, two ships were lost in their way out, one with materials for the East Indian Railway, of the value of 10,800*l.*, and one laden with goods for the Madras Railway, worth 3,896*l.*

17. The following Table will show the number of locomotives, carriages, and vehicles of various descriptions, added to the former stock of each Company during the year 1863:— Rolling Stock.

Name of Company.	Locomotives.			Carriages.		Trucks and Waggons.		Total Number of Vehicles, 31st December 1863.
	Former Number.	Added, 1863.	Total Engines.	Former Number.	Added, 1863.	Former Number.	Added, 1863.	
East Indian	184	171	355	480	25	3,015	478	3,998
Great Indian Peninsula	83	75	158	270	—	2,378	626	3,274
Madras	62	13	75	135	19	1,412	119	1,685
Bombay and Baroda	43	10	53	234	2	1,800	1,066	3,102
Scinde	20	6	26	45	12	307	274	638
Punjaub	5	—	5	22	—	105	—	127
Eastern Bengal	20	—	20	102	—	370	—	472
Great Southern	9	2	11	32	1	154	13	200
Calcutta and South-Eastern	6	—	6	42	—	157	—	199
Total	432	277	709	1,362	59	9,696	2,576	13,695

18. The number of proprietors and debenture holders has increased during the year from 31,420 to 33,358. The amount of capital has increased 10 per cent., and the number of proprietors only about 4 per cent. It will be observed that only about one in a hundred are Natives. Number of Proprietors.

Railway Company.	Number of Shareholders					Number of Debenture Holders.	Total Number of Proprietors.
	With Stock to the Amount of 1,000*l.* and upwards.	With Stock of less than 1,000*l.*	Total Number in England.	Registered in India.	Of which latter are Natives.		
East Indian	3,936	4,469	8,405	244	87	3,313	11,962
Great Indian Peninsula	2,603	3,389	5,992	226	141	952	7,170
Madras	1,526	2,015	3,541	—	—	1,103	4,644
Bombay, Baroda, and Central India.	1,286	1,303	2,589	92	71	711	3,392
Scinde	474	552	1,026	16	3	340	1,382
Punjaub	600	661	1,161	17	2	63	1,241
Delhi	460	552	1,012	40	6	—	1,052
Indus Flotilla	88	214	302	—	—	122	424
Eastern Bengal	309	418	727	31	21	243	1,001
Great Southern	195	312	507	14	11	86	593
Calcutta and South-Eastern	99	235	334	80	54	83	497
Total	11,476	14,120	25,596	760	395	7,016	33,358

Persons employed on the lines.

19. The following Table, which, on account of the non-transmission of the returns from Bengal, is, I regret to say, very imperfect, gives some idea of the relative numbers of Europeans, East Indians, and Natives employed on the open lines. Last year the numbers were 35,468 Natives, and 2,344 Europeans and East Indians.

Name of Company.	Secretary's or Agent's Department.			Locomotive Department.			Engineers' Department.			Traffic Department.			General Store Department.			Electric Telegraph Department.			Grand Total.		
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.
East Indian (Bengal Division)																					
Do. (North-West Provinces).																					
Total - -																					
Madras - -	*24	*141	*163	356	2,616	2,972	47	3,177	3,224	89	945	1,034	18	80	98	12	10	22	546	6,968	7,515
Great Indian Peninsula -	7	133	140	173	2,008	2,181	54	191	245	185	2,584	2,769	30	546	576	1	23	24	450	5,485	5,935
Bombay, Baroda, and Central India - - - -	5	10	15	49	321	370	12	1,825	1,837	37	122	159	2	10	12	2	16	18	107	2,304	2,411
Scinde - - - -																					
Punjaub - - -	10	31	41	88	542	630	27	1,851	1,878	38	173	211	2	127	129	10	10	20	184	2,734	2,918
Indus Flotilla - - -																					
Total - -																					
Great Southern of India -	6	4	10	20	14	34	3	319	322	3	123	126	—	—	—	2	—	2	34	460	494
Eastern Bengal - -	6	70	76	45	266	511	6	18	24	38	436	474	1	22	23	4	41	45	100	853	953
Calcutta and South-Eastern																					
* Including Accountant's Department -	7	73	80																		
Including Medical ditto -	10	5	15																		

20. The number of persons permanently engaged on the railways is becoming every year more considerable, and when the lines are completed a large staff of officers and servants, European and Native, will find employment on them. It may be possible, by degrees, to transfer to Natives duties which can now only be entrusted to Europeans; but the process will, I fear, be a slow one, and, for some time, the chief positions will have to be occupied by Europeans, whose pay, speaking generally, is at least twice as much as that given to persons holding similar situations in England, and far more than it would be necessary to grant to Natives. This maintenance of a highly paid European agency is one of the obstacles to the economical working of Indian railways, and to it may be added the extra liability of losing the services of men who, from the nature of their occupation, from carelessness, or intemperance, expose themselves to the ill effects of a tropical climate, and either sink under them or return to Europe on sick leave. The very proper course is taken in this country of requiring all persons selected for employment, in every grade, to be passed as physically fit for service by the Companies' skilful Consulting Physician, Dr. Brinton, before they are finally appointed; and it is, probably, owing to this precaution that the casualties have not been greater than are shown in the accompanying table. The number of rejections shows that they would, probably, have been increased 25 per cent. in four years. Where they appear large in any one year among the staff of a particular Company, it is, most likely, owing to the prevalence of some epidemic.

Medical Returns.

TABLE showing Casualties among the European Staff of the Railway Companies and Rejections by Consulting Physician.

Company.	1860.			1861.			1862.			1863.			Total for 4 Years.	
	Deaths.	Retirements from ill health.	Rejections by Consulting Physician.	Deaths.	Retirements.	Rejections.	Deaths.	Retirements.	Rejections.	Deaths.	Retirements.	Rejections.	Casualties from Deaths, and Retirements from ill health.	Rejections by Consulting Physician.
Great Indian Peninsula	10	6	4	0	7	0	8	1	2	6	3	4	41	10
Madras - -	2	2	1	7	2	0	3	2	3	0	2	0	20	4
Bombay, Baroda, and Central India -	7	3	0	8	2	1	6	5	0	3	4	2	38	3
Scinde - -	0	0	0	0	0	0	1	2	3	1	2	3	6	6
Punjaub - - -	0	0	0	0	0	0	3	1	1	3	2	3	9	4
Indus Flotilla - -	0	0	0	0	0	0	1	1	1	1	1	1	4	2
Eastern Bengal -	0	2	0	3	0	0	0	1	1	1	2	2	9	3
Great Southern -	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Calcutta and South-Eastern - -	0	0	0	2	2	0	2	2	0	2	2	1	12	1
Total - -	19	13	5	20	13	1	24	15	12	17	18	16	139	34

21. It thus appears that the average number of deaths for the four years (excluding the East Indian Railway, from which I have been unable to obtain returns) is 20 per annum, and of retirements on account of failing health 15 per annum. Taking the number of Europeans in the employment of the nine Companies to be 2,800, the mortality would be less than one per cent. There are no means of judging of the provident habits of the European mechanic when in India. The rate of pay he receives should enable him to make provision for the future, but there is not the opportunity as in this country of exercising qualities of prudence by belonging to benefit and other societies. There are necessarily difficulties in the way of forming such associations for a service which is so heterogeneous and fluctuating as that of the Indian Railways. But I am happy to be able to state that a ready means of putting by their savings will soon be afforded to the railway servants in India. The East Indian Railway Company are about to obtain powers from Parliament to enable them to establish, at such stations as they may think fit, savings banks, at which their servants may deposit sums of any amount, and receive a fair rate of interest thereon. This is a step in the right direction, and, by the facilities which such banks will afford for the safe and profitable investment of small sums, an encouragement will be given to those habits of prudence and steadiness which produce the best servants. The example will, I trust, be followed by the other Railway Companies.

22. In the absence of the returns regarding accidents which ought to have been received from India, I regret that I am unable to give the usual information on this subject in this Report. During the year, however, no accident of any magnitude has been specially reported. Accidents.

FINANCIAL POSITION OF THE RAILWAY COMPANIES.

23. The following Statements exhibit, in detail, the financial position of each Company. Capital.

24. The operations for the year in this Department have, in the aggregate, been an increase to the capital of 6,066,966*l.*, 4,971,366*l.* having been raised by shares, and 1,095,600*l.*, by Debentures,—and an expenditure of 4,775,861*l.*, that in India having been 3,359,901*l.*, and in England 1,415,960*l.*

25. The whole capital raised, on the 1st of May instant, amounted to 54,285,088*l.*, and the expenditure to 51,144,722*l.* The expenditure during the year has been less than was estimated, the chief reason being, that the works on the Delhi line have not been proceeded with as was expected. Delay took place in fixing upon the exact route, and no part of the works was commenced until very recently. The expenditure has thus been only about 40,000*l.*, instead of 700,000*l.* The amounts expended on the Great Indian Peninsula and the Madras Railways are also considerably within the estimate, in consequence of no commencement having been made with those portions of these undertakings which depend upon the course selected for the line between Madras and Bombay. The amount raised by the Companies during the year nearly corresponds with that estimated, and as the expenditure is less the balance now in hand is greater than was expected. Instead of 1,100,000*l.*, there is upwards of 3,000,000*l.* to begin the year with. To the extent of the difference between these amounts, the calculations which were made with regard to future expenditure are likewise affected, the work of construction having only been postponed.

Statement No. 1.

Showing the Amount raised and expended by each Company during the year 1863–64.

Company.	Sums standing to the Credit of the Companies on the 30th April 1863.	Sums advanced to the Companies 30th April 1863.	Amount raised between 1st May 1863 and 30th April 1864.		Amount expended.				Total Raised during the Year ended 30th April 1864.	Total Expended during the Year ended 30th April 1864, (partly estimated.)
			By Shares.	By Debentures.	In England, between 1st May 1863 and 30th April 1864.	In India. Date to which Accounts have been received.	In India. Amount.	In India. Estimated Expenditure between dates specified and 30th April 1864.		
	£	£	£	£	£		£	£	£	£
East Indian - Main line	—	243,580	2,108,315	—	492,578	28th Feb. 1864	523,325	150,000	2,108,315	1,165,900
East Indian - Jubbulpore line	—			—	811	„	278,619	100,000		379,430
Great Indian Peninsula - -	787,568	—	1,158,116	303,700	196,187	„	702,395	200,000	1,461,816	1,098,582
Madras - S.-W. line - -	296,633	—	—	—	223,862	„	160,521	30,000	—	515,471
Madras - N.-W. line - -	277,645	—	531,946	—			76,088	25,000	531,946	
Scinde - - - -	—	250,028	314,400	150,000	99,635	„	115,630	12,000	464,400	227,265
Indus Flotilla - - -	24,863	—	—	—	5,367	„	5,540	2,000	—	12,907
Punjab - - - -	—	37,284	99,083	500,000	69,237	„	244,032	60,000	599,083	373,269
Delhi - - - -	1,039,147	—	3,133	—	2,865	„	16,954	15,000	3,133	34,819
Bombay, Baroda, and Central India	—	17,549	623,373	41,900	287,251	„	460,916	80,000	665,273	828,167
Eastern Bengal - - -	—	4,133	—	—	20,615	„	50,547	5,000	—	76,162
Calcutta and South-Eastern -	—	22,799	—	—	3,489	„	22,121	5,000	—	30,610
Great Southern - - -	—	13,137	133,000	100,000	14,063	„	16,216	3,000	233,000	33,279
Total - -	2,425,856	588,510	4,971,366	1,095,600	1,415,960	—	2,672,901	687,000	6,066,966	4,775,861
	Net Balance - £1,837,346									

Statement No. 2.

Estimated Expenditure of Railway Capital for the Year 1864-65.

Company.	Estimated Expenditure from 1st May 1864 to 30th April 1865,			Sum standing to the Credit or Debit of the Companies on the 1st May 1864.	Sums to be raised by the Companies.	Total Amount placed and to be placed Home Treasury of Government.	Estimated Balance, 1st May 1865.
	In England.	In India.	Total.				
	£	£	£	£	£	£	£
East Indian - - - { Main line -	200,000	800,000	1,000,000	319,405	2,250,000	2,569,405	269,405
{ Jubbulpore -	300,000	1,000,000	1,300,000				
Great Indian Peninsula - - - -	214,300	927,500	1,141,800	1,150,802	250,000	1,400,802	259,002
Madras - - - - { S.-W. line -	100,000	83,000	183,000	590,753	750,000	1,340,753	317,753
{ N.-W. „ -	500,000	340,000	840,000				
Scinde - - - - - - -	20,000	80,000	100,000	Dr. 12,893	90,000	77,107	Dr. 2,893
Indus Flotilla - - - - - -	40,000	20,000	60,000	11,956	50,000	61,956	1,956
Punjab - - - - - -	60,000	100,000	160,000	188,530	50,000	238,530	78,530
„ Delhi - - - - -	300,000	400,000	700,000	1,007,461	100,000	1,107,461	407,461
Bombay, Baroda, and Central India - -	200,000	300,000	500,000	Dr. 180,443	700,000	519,557	19,557
Eastern Bengal - - - - - -	120,000	70,000	190,000	Dr. 80,295	280,000	199,705	9,705
Calcutta and South-Eastern - - -	5,000	25,000	30,000	Dr. 53,409	90,000	36,591	6,591
Great Southern of India - - -	84,000	110,000	194,000	186,584	100,000	286,584	92,584
Total - - -	2,143,300	4,255,500	6,398,800	Cr. 3,455,491 Dr. 327,040 Net Cr. 3,128,451	4,710,000	7,838,451	1,439,651

Statement No. 3.

Showing the Amount of Capital estimated to be required for each Undertaking, with a single Line, as now sanctioned, the Amount raised, and the Amount expended, to 30th April 1864.

Company.	Amount estimated to be required for the Undertaking as now sanctioned.	Amount authorized by Government to be raised.				Amount raised in England to 30th April 1864.			Amount raised in India to Date of last Advices.	Total raised to 30th April 1864.	Total Amount advanced for Expenditure to 30th April 1864 (partly estimated).
		Share Capital.	Debentures.		Total.	By Shares.	By Debentures.				
			Convertible into Shares.	Inconvertible.			Convertible.	Inconvertible.			
	£	£	£	£	£	£	£	£	£	£	£
East Indian — Main line	23,000,000	17,277,801	2,472,199	3,000,000	22,750,000	14,480,059	2,472,199	3,000,000	254,545	20,206,803	21,221,681
East Indian — Jubbulpore	3,500,000	2,000,000	—	—	2,000,000	1,952,135	—	—	7,664	1,959,799	628,736
Great Indian Peninsula	16,000,000	11,000,000	—	3,000,000	14,000,000	9,456,441	—	2,303,700	367,858	12,127,999	10,977,197
Madras — S.-W. line and Bangalore branch (85 m.)	5,500,000	3,167,150	1,499,550	333,300	5,000,000	3,163,030	1,499,550	333,300	—	4,995,880	5,913,553
Madras — N.-W. „ „	4,500,000	3,000,000	—	—	3,000,000	2,327,048	—	—	—	2,327,048	816,928
Scinde	2,000,000	1,596,100	253,900	150,000	2,000,000	1,522,745	253,900	150,000	20,974	1,947,619	1,879,898
Indus Flotilla	400,000	295,100	82,900	—	378,000	250,005	82,900	—	—	332,905	320,948
Punjab	3,000,000	1,500,000	—	500,000	2,000,000	1,465,258	—	500,000	8,344	1,973,602	1,861,773
„ Delhi	5,000,000	2,500,000	—	—	2,500,000	1,042,187	—	—	3,893	1,046,080	40,325
Bombay, Baroda, and Central India	5,500,000	4,150,000	850,000	100,000	5,100,000	3,770,796	849,995	41,900	21,662	4,684,353	4,865,037
Eastern Bengal	1,800,000	1,000,000	—	600,000	1,600,000	990,745	—	400,000	9,255	1,400,000	1,479,482
Calcutta and South-Eastern	600,000	310,000	90,000	100,000	500,000	290,377	90,000	—	19,623	400,000	453,475
Great Southern	1,500,000	862,300	166,000	137,300	1,165,600	628,479	153,300	100,000	1,221	883,000	685,689
Total	**72,300,000**	48,158,451	5,414,549	7,920,600	**61,993,600**	41,339,305	5,401,844	6,828,900	715,039	**54,285,088**	**51,144,722**

Capital expenditure.

26. An increase will be observed in the estimated amount of capital expenditure. In previous reports, I have expressed doubts as to the sufficiency of the estimates then given. To the reasons for those doubts which then existed, viz., the invariable disappointment which occurs in regard to all original estimates for any large works, and the special want of information and experience with respect to such novel undertakings as railways in India, may now be added the increased length of line caused by alterations in the routes of some of the railways, or by additions to others. The East Indian Railway Company will probably have added 200 miles to its lines as originally projected. The Great Indian Peninsula Railway will also most likely be increased by 30 or 40, the Madras by about the same, the Punjab and Delhi by 30, and the Great Southern by 82 miles, making in all an addition of nearly 400 miles to the 4,679 miles given in last year's report as the total length which had been sanctioned. Then again, it is not impossible that the Steam Flotilla on the Indus may have to be superseded by a railway, which would add another 450 miles to the present system. With respect also to the estimates *now* made, it should be borne in mind that they relate to railways constructed for the most part with single lines of rails, so that when the time comes for doubling them an additional outlay of from three to four thousand pounds a mile will have to be incurred. Looking forward to the necessity which will arise during the next 20 or 30 years for this work—a necessity, however, which should not be acknowledged except on the strongest proofs that danger is incurred and profitable traffic lost by the want of a second line,—having regard also to the increased extent of line above indicated, and to the large supply of rolling stock and locomotives that will be required, it is not improbable that, before the end of the present century, ninety or a hundred millions will have been spent upon the guaranteed system of Indian railways. Nor will this system alone be found sufficient to meet the wants of the country, which will have to be met by numerous branches and feeders.

System for granting subsidies to certain lines.

27. A commencement has already been made in this direction by the Indian Branch Railway Company, which, as noticed in para. 12, has opened for traffic its first line. The same Company has also received from the Government authority to undertake the construction of a railway, of the standard 5 feet 6 inch gauge, extending from the East Indian Railway, near Buxar, to the Delhi and Lahore Railway, near Saharunpoor, together with three or four branch or cross lines, to connect the two main lines, the whole amounting to about 800 miles. The aid given by the Government to this undertaking is in the shape of a subsidy, the payment of which is contingent on the actual completion and maintenance of the line. Such kind of assistance is the beginning of a system which the Government intend to substitute for the guarantee. In this case (and each case is to be decided according to the special character of the project) the Government provide the necessary land free of expense, and grant 100*l.* a mile annually for 20 years. They also pay an additional 100*l.* for 20 years on every 10,000*l.* expended on the bridges which are estimated to cost more than 10,000*l.* The East Indian Tramway Company has also made arrangements, upon somewhat similar terms, for the construction of certain branch lines in connexion with the Madras Railway, which are described hereafter.

Annual expenditure of Capital.

28. The amount that has been annually expended, and the length of line that has been opened in each year, will be found in the subjoined Table :—

Year.	Miles opened during the Year.	Expended in England.	Expended in India.	Total.
		£	£	£
Up to 1850 -	—	130,375	44,781	175,156
In 1851 -	—	154,212	197,111	351,323
„ 1852 -	—	174,920	252,640	427,560
„ 1853 -	22¼	252,484	418,165	670,649
„ 1854 -	50¼	960,878	768,710	1,729,588
„ 1855 -	98¼	1,939,101	1,431,904	3,371,005
„ 1856 -	101¾	1,752,813	1,765,094	3,517,907
„ 1857 -	143	1,324,873	2,092,395	3,417,268
„ 1858 -	145	1,940,052	3,551,073	5,491,125
„ 1859 -	74½	2,507,949	4,654,923	7,162,872
„ 1860 -	208	2,396,924	5,192,846	7,589,770
„ 1861 -	759	1,596,010	4,962,604	6,558,614
„ 1862 -	747	1,854,289	3,956,563	5,810,852
„ 1863 -	233½	1,411,661	3,360,114	4,771,775
Total - -		18,396,541	32,648,923	51,045,464

Division of expenditure.

29. The following Statement shows the manner in which the expenditure on the different undertakings has been divided, so far as it has been allocated:—

Railway Company.	Works and Bridges, &c.	Permanent Way and Stations.	Freight and Insurance.	Rolling Stock.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian - - -	6,754,754	4,719,926	2,272,682	2,350,892	2,709,309	1,782,573
Great Indian Peninsula - -	4,265,652	2,367,869	1,628,539 Including Stores.	963,850	689,500	101,700
Madras - - - -	2,009,102	1,924,865	—	399,833	481,549	233,848
Bombay, Baroda, and Central India	1,719,602	930,094	396,938	369,093	322,896	470,547
Scinde - - - -	657,597	344,080	138,793	163,241	69,913	347,999
Punjab - - - -	63,916	571,463	333,569	208,347	89,414	159,909
		Steamers and Barges.				
Indus Flotilla - - -	11,298	243,028	9,558	—	20,232	46,697
Eastern Bengal - - -	423,298	551,795	135,895	116,744	157,328	71,730

TRAFFIC OF THE RAILWAYS.

30. The general results of the traffic during the past year will be found to be satisfactory, notwithstanding the serious drawbacks to its development which the incomplete state of the lines and of the roads to the stations present. There has been a continuous increase in the receipts both from passengers and goods, in a direction which it is reasonable to expect will continue, for it has been produced, not by accidental causes, but by the gradual development of trade and of locomotive habits among the population at large, which seem to grow, almost as by a law, in proportion to the means provided. The amount received for the conveyance of goods in the year ending the 30th June 1862 was about 590,000*l.*; in the year ending 30th June 1863 it was about 1,033,000*l.* The receipts from passengers during the same periods were about 438,829*l.* and 679,400*l.* respectively.

31. The net earnings in 1863 were about 780,000*l.*, compared with 434,000*l.* in in 1862; and these, it should be remembered, are only the aggregate results of the working of several incomplete and broken lines.

32. While the traffic will undoubtedly be large, it still remains to be seen whether that traffic will be worked with a corresponding profit. The cost of construction has been greater than was expected on most of the lines, and the expense of working and maintenance will not be less than was expected. Yet, with good management and economy, and a judiciously framed tariff of rates and fares, there is no reason for taking a discouraging view of the future. The cost per mile of the various undertakings has varied considerably, and the following Table will show what the gross earnings of each should be to yield 5 per cent. upon the present estimated capital, *fifty per cent.* being taken for the expense of working and maintenance. It will also be seen what they are now earning. If the working expenses and the cost of maintenance were to exceed 50 per cent., the gross earnings must of course be proportionately increased to produce the same net revenue. In the United Kingdom, the gross receipts per mile during the year 1862 were 2,521*l.* 14*s.* 8*d.*, or 48*l.* 13*s.* 5*d.* per mile per week, the proportion of expenses for working and maintenance to the gross receipts being 49 per cent., and the average cost per mile being about 33,350*l.* The circumstances of the two countries and systems are so different, that any comparison at all may be considered inappropriate. While the English railways may be said to have arrived at maturity, those in India can hardly be considered to have reached their infancy.

A comparison, however, of this kind often presents some points of interest and instruction.

Name.	Estimated Cost.	Gross annual Earnings required to yield 5 per cent. deducting 50 per cent. for Working Expenses.	Earnings per Mile per Year	Weekly Earnings per Mile	Highest Amount of weekly Earnings per Mile, by Accounts hitherto received.
	Miles. Per Mile. £	£	£	£	£
East Indian	*1,130 at 20,000	2,260,000	2,000	38	Bengal Division 38 N. W. „ 26
Great Indian Peninsula	1,266 „ 13,000	1,645,800	1,300	25	£30
Madras	850 „ 11,000	935,000	1,100	21	14
Bombay, Baroda, and Central India	312 „ 16,000	500,000	1,603	30	20
Scinde	114 „ 18,000	205,200	1,800	35	24
Eastern Bengal	110 „ 14,500	160,000	1,454	28	20
Great Southern	79 „ 8,800	70,000	880	17	9
	3,861 miles.	5,776,000	Average 1,496	Average about 30	—

* Exclusive of the Jubbulpore Line.

33. The following Statement shows the manner in which the cost of maintenance and working is divided on some of the lines open for traffic. For the sake of comparison, the same information with respect to English railways is also given. Division of charges for maintenance and working.

Railway Company.	Maintenance of Way and Works.	Locomotive Power.	Repairs to Rolling Stock.	Traffic Charges.	Compensations.	Miscellaneous and General.	
East Indian, Bengal	25·36	36·60	8·77	13·11	·08	16·07	100
„ North-West Provinces	17·12	44·42	12·10	12·02	·06	14·28	„
Great Indian Peninsula	18·96	26·76	9·46	21·50	*16·57	6·75	„
Madras, South-West Line	48·64	33·70	1·32	12·20	·59	3·55	„
„ North-West Line	20·16	58·33	1·89	16·85	—	2·77	„
Scinde	35·49	28·39	11·10	15·29	·01	9·72	„
Punjaub	15·08	27·14	8·99	22·31	—	26·48	„
Bombay, Baroda, and Central India	25·19	39·01	3·36	17·34	·81	14·29	„
Eastern Bengal	11·18	39·65	6·84	17·59	nil.	24·74	„
Calcutta and South-Eastern	—	52·67		34·29	—	13·04	„
Great Southern	6·52	65·		14·10	—	14·38	„
Average of Lines in the United Kingdom for 1862	18·99	27·79	8·71	27·95	1·59	†14·97	„

* Including heavy losses from destruction of cotton by fire.
† Including taxes, law expenses, Government duty, &c.

34. Compared with English railways, the Indian lines (some more than others) labour under the disadvantage of expensive fuel, of a more rapid deterioration of works under atmospheric influences, and of an expensive European agency. The first will be seen in the increased cost of locomotive power; and, to show the importance that is to be attached to the question, the following statement of the Locomotive Superintendent of the Madras Railway on the saving he expects to effect by the use of wood, may be taken as a single illustration:— Working charges peculiar to Indian Railways. Fuel.

"As regards wood burning, the number of engines fitted with spark catchers has been greatly increased, and, if I can continue to get ample supplies of firewood at anything like present rates, the saving in cost of fuel will be very great. The total cost of fuel consumed by engines, on capital and revenue account in the month of November, was Rs. 9,215 less than in July last, although with an

increased mileage and heavier average loads; this is entirely due to the decrease in the consumption of coke and coal by the substitution of firewood. From the 1st of January 1864, I hope to reduce the expenses to Rs. 10,000 per month less on revenue account than they would be were we burning coke and coal only. As we are now burning wood almost exclusively in the interior of the country, that is, from Vellore to Palghaut, the cost of carriage of fuel is so much reduced by the shorter average loads, that, in next half year, commencing 1st January 1864, I can put coals on to the tenders at Rs. 25 per ton, instead of at Rs. 30. Our present consumption averaging about 8,000 tons per annum, this reduction will effect a greater saving of about Rs. 40,000 per annum; and, if the coal is purchased in this country at the rate of Rs. 20 per ton delivered in our yard, I can put it on the tenders at an average cost of about Rs. 22. 8 per ton, being an additional annual saving of Rs. 20,000, or a total saving of Rs. 60,000 a year." The East Indian Railway Company also calculate that by availing themselves of a particular coal-field, containing a superior description of coal, they will save 50,000*l.* a year.

Effects of climate.

35. The second drawback, viz., the effects of the climate upon the works, will be visible in the maintenance charges, and the last, viz., an expensive European agency, will affect all Departments. Mr. R. W. Crawford, the Chairman of the East Indian Railway Company, at the last meeting of that Company, observed that, "considering the work done for the money, the cost of sending men out to India, "and other matters, the average cost of European labour in India was as 5 to 1 "in England." This is probably very near the mark, but against this high charge may be set the low cost at which Native labour is obtained, in comparison with that paid in England; and the proportion of Europeans to Natives employed on the Indian railways is about 1 to 15. On the other hand, English lines are subject to drawbacks from which Indian lines are exempt. The average cost is more than twice as large, and the annual expenses are, in some respects, greater. The rates and taxes, for instance, and the Government duty, amount to 6·81 per cent.; and Parliamentary and law expenses, on an average, amount to 1·54 per cent of the whole. The Indian lines escape these, and also the reduction in their traffic from competitive lines, which, in spite of the Parliamentary expenses incurred to prevent them, are sanctioned in this country. The whole question is a most important one for the Indian Railway Companies to consider and look into, and it will require the vigilant and constant attention of their agents and officers. It is evident, already, that upon the reduction of the annual expenses chiefly depends the increase of the profits.

European Agency.

Working Expenses compared with those on England.

Rates and Fares.

36. Another question of great importance, as affecting the success or otherwise of these undertakings, is that of rates and fares. The object, both of the Government and the Companies, is so to regulate them as to produce the highest profits. There is a point at which the greatest amount of traffic can be produced at the smallest cost, and rates are too high or too low when they have the effect of reducing the traffic below or increasing it beyond that point. It will be observed, in some of the traffic returns hereafter given, that the receipts have increased, although the traffic has diminished. If the traffic has not been reduced too much, the object has been attained. But it is possible that the rates may have been raised a little too high, and that more traffic might have been taken, at a less profit per passenger or per ton of goods, and yet so as to produce greater aggregate profits. It is a subject that, at present, requires the careful and constant attention of those who have the opportunity of watching the working of the railways. It is the duty of the Government to see that the public are protected, by taking care that a moderate scale of maximum rates is established; but the arrangement of the actual charges within that scale might, perhaps, be left with advantage to the railway managers. The following Table shows the fares for a hundred miles journey on the various Indian lines, as well as the charges for the same distance on some of the English railways. The fares on the former will be found to be much below those on the latter, especially in the third class, in which the charge is sometimes as low as at the rate of a farthing ($\frac{1}{4}d.$) and never more than a halfpenny ($\frac{1}{2}d.$) per mile. The second class varies from under three farthings ($\frac{3}{4}d.$) to about five farthings ($1\frac{1}{4}d.$) per mile, and the first class from five ($1\frac{1}{4}d.$) to six farthings ($1\frac{1}{2}d.$) per mile.

STATEMENT showing the Fares for 100 miles Journey on the following Railways.

Name.	1st Class.	2d Class.	3d Class.	Parliamentary.
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
East Indian	10 9	9 4	3 1	—
Great Indian Peninsula	11 5½	5 8½	2 8½	—
Madras	11 5½	4 9	2 10½	—
Bombay and Baroda	12 6	7 3	4 2	—
Eastern Bengal	12 6	6 3	3 1½	—
*Great Southern	10 0	6 8	2 3½	—
Sinde (105 miles)	11 0	7 4	3 8	—
English.				
Great Northern	20 6	13 6	8 4	8 4
London and Dover	20 0	13 5	8 4	8 4
Great Eastern	20 7	16 6	12 6	8 4
Brighton	16 6	13 0	8 4	8 4
London and North-Western	17 11	12 11	8 4	8 4
Great Western	17 6	13 3	8 5	8 4

* For 79 miles, being the whole length open.

37. The following Statement shows the amount that has been paid to the several Railway Companies in this country for guaranteed interest up to the 31st December 1863. Some of them have reduced the amounts against their respective names, by payments into the Government treasuries in India of their net earnings. The total so paid reaches to about 2,400,000*l.*

Company.	Interest paid up to 31st December 1862.	Interest paid during 1863.			Total Amount paid up to end of 1863.
		England.	India.	Total.	
	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
ıst Indian	4,213,143 6 3	976,709 8 8	10,256 6 3	986,965 14 11	5,200,109 1 2
:eat Indian Peninsula	1,783,215 10 7	494,227 2 10	18,327 16 7	512,554 19 5	2,295,770 10 0
adras	1,157,098 4 2	323,099 1 11	—	323,099 1 11	1,480,197 6 1
inde	264,958 8 8	72,342 4 1	1,035 15 0	73,377 19 1	338,336 7 9
ınjab	162,246 1 1	66,807 16 8	394 7 8	67,202 4 4	229,448 5 5
elhi	—	37,919 8 5	66 14 6	37,986 2 11	37,986 2 11
dus Flotilla	51,439 13 1	16,640 13 8	—	16,640 13 8	68,080 6 9
ombay, Baroda, and Central India	404,364 7 7	182,791 6 0	1,083 2 4	183,874 8 4	588,238 15 11
stern Bengal	137,780 10 0	69,655 17 1	338 0 0	69,993 17 1	207,774 7 1
lcutta and South-Eastern	36,173 6 10	18,350 7 11	1,283 4 8	19,633 12 7	55,806 19 5
eat Southern	58,770 14 5	32,276 6 2	—	32,276 6 2	91,047 0 7
	£8,269,190 2 8	£2,290,819 13 5	£32,785 7 0	£2,323,605 0 5	£10,592,795 3 1

38. The following remarks apply to the various undertakings separately, and to the traffic of each.

EAST INDIAN.

39. This Company is now conveying traffic over a length of 1,101 miles, 252¼ of which have been opened since the 1st January 1863. Were it not for the break at the Jumna, which is is feared may continue for another eighteen months, there would be a continuous length of about 1,000 miles from Calcutta to Ghazeeabad (Delhi Junction), upon which traffic is being carried. The sections opened during the year, were—

5½	miles from	Topooi to Babisole	1st January 1863.
84½	,, ,,	Shekoabad to Allyghur	1st March ,,
1½	,, ,,	Raneegunge to Searsole,	21st September 1863.
39½	,, ,,	Benares to Mirzapore	1st January 1864.
56¾	,, ,,	Mirzapore to Allahabad	1st April ,,
66	,, ,,	Allyghur to Ghazeeabad	,, ,,

40. A length of about 240 miles is now under construction, of which 12 belongs to the branch line from Ghazeeabad to Delhi, including the bridge over the River Jumna, and 225 to the Jubbulpore line. The progress making on these works is considered satisfactory. This great undertaking is likely still further to be increased, by the extension, as described in a former part of this Report, of what has been known as the Raneegunge branch, from its present terminus at Barrakur to some point near the Ganges on the trunk line. These works, and the probable necessity for making portions of the line double, will involve a further expenditure, and powers are about to be obtained from Parliament to increase the capital by 7,000,000*l.*, the same to be raised from time to time during the next few years, as required and sanctioned by the Government.

41. The steam-vessels which were used for the transport of materials up country are being sold, and the capital account will be relieved to the amount produced by their sale.

42. The traffic is rapidly increasing, especially since the period to which the following details are brought, and the results are upon the whole encouraging, although the working expenses are high compared with former years. There can be no doubt that the traffic will be very large, and, taking into account the heavy cost of the line, the annual gross receipts must amount to about two millions and a half sterling before 5 per cent. on the capital can be earned.

43. The following Tables contain details connected with the traffic, in continuation of those given in former Reports, and are brought down to the 30th June 1863.

Statement No. I.

Comparative Statement, showing the Amount of Receipts from Passengers and Goods, the Working Expenses, and the Net Profits, during the Years ending 30th June 1859, 1860, 1861, 1862, and 1863.

Bengal Division.

Period.	Mean Number of Miles open.	Receipts from Conveyance of			Total Receipts.	Working Expenses.			Net Profits.
		Passengers.	Merchandise.	Miscellaneous.		Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£	£
Half-year ending 31st December 1862	396	80,702	112,797	7,152	200,651	82,736	30,572	113,308	87,343
Ditto, 30th June 1863	606⅝	150,686	230,755	10,391	391,832	138,745	55,004	193,749	198,083
Year ending 30th June 1863	Mean. 501	231,388	343,552	17,543	592,483	221,481	85,576	307,057	285,426
Year ending 30th June 1862	314	148,107	230,302	15,037	393,446	129,069	69,595	198,664	194,782
Ditto, 1861	217	116,371	85,504 81,192	13,436	297,533	112,525	30,869	143,394	153,139
				Railway Materials.					
Ditto, 1860	166	98,809	133,334	16,371	239,516	—	—	106,265	133,251
Ditto, 1859	166	73,947	92,517	21,525	192,836	—	—	96,184	96,651

North-West Provinces Division.

Period.	Number of Miles open.	Receipts from Conveyance of			Total Receipts.	Working Expenses.			Net Profits.
		Passengers.	Merchandise.	Miscellaneous.		Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£	£
Half-year ending 31st December 1862	279	32,006	49,906	1,625	83,537	42,649	6,991	49,630	33,907
Ditto, 30th June 1863	304	50,075	72,318	2,139	124,532	50,654	11,202	61,856	62,676
Year ending 30th June 1863	Mean. 296	82,081	122,224	3,764	208,069	93,303	18,193	111,486	96,583
Year ending 30th June 1862	245¼	62,268	92,857	4,634	159,759	44,092	29,453	73,545	86,214
Ditto, 1861	123	38,623	68,479	3,839	110,941	—	—	49,501	61,441
Ditto, 1860		28,837	41,541	8,915	79,293	—	—	40,371	38,922

Statement No. II.

Comparative Statement showing the Proportion of Working Expenses to Gross Receipts, and the Proportion per cent. of Receipts from Passengers and Goods.

Bengal Division.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1859	45·04	35·9	64·
" " 1860	44·36	37·4	62·5
" " 1861	48·35	39·3	60·7
" " 1862	50·49	39·63	60·37
" " 1863	51·80	38·8	61·2

North-West Provinces Division.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1860	50·91	36·1	63·9
" " 1861	44·61	34·8	65·2
" " 1862	46·03	36·13	63·87
" " 1863	53·60	39·4	60·6

Statement No. III.

Comparative Statement showing the Number of Passengers conveyed during the Years ending 30th June 1859, 1860, 1861, and 1862.

Bengal Division.

Period.	Average Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Year ending 30th June 1859 -	166	15,106	57,309	1,199,517	1,271,932
" " 1860 -	166	17,334	69,693	1,440,740	1,527,767
" " 1861 -	217	19,403	69,583	1,561,461	1,650,447
" " 1862 -	311	22,420	76,421	1,838,259	1,937,100
" " 1863 -	501	27,786	86,638	2,310,757	2,425,181

North-West Provinces Division.

Period.	Average Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Year ending 30th June 1860 -	123	2,979	7,433	196,344	206,756
" " 1861 -	—	2,856	4,872	219,078	226,806
" " 1862 -	245	3,874	7,079	331,982	342,935
" " 1863 -	292	4,649	9,427	463,088	477,164

STATEMENT No. IV.

COMPARATIVE STATEMENT showing the Total Number of Passengers conveyed per Mile, and the Total Number per Mile of each Class.

BENGAL DIVISION.

Period.	Total Number of Passengers conveyed per Mile.	Total Number conveyed per Mile in		
		1st Class.	2d Class.	3d Class.
1859	9,661	106·3	403·5	9,151·5
1860	9,203	104·4	419·8	8,679·1
1861	7,605	89·2	320·7	7,195·1
1862	6,228	72·	245·7	5,910·8
1863	4,860	55	173	4,632

NORTH-WEST PROVINCES DIVISION.

Period.	Total Number of Passengers conveyed per Mile.	Total Number conveyed per Mile in		
		1st Class	2d Class.	3d Class.
1860	1,590·9	24·2	60·4	1,506·2
1861	1,844	23·3	39·6	1,781·1
1862	1,399	15·8	28·9	1,355
1863	1,633	15·9	32·2	1,585

GREAT INDIAN PENINSULA RAILWAY.

44. This Company has added 59¼ to the 497¾ miles which were open at the commencement of 1863, leaving 709 to be constructed. The section over the Bhore Ghât, 13½ miles in length, a description of the works on which was given in my last Report, was opened in April 1863, and that between Julgaum and Mulkapoor was opened in May last. This latter section enters the cotton districts of Berar, but until the works on the Thull Ghât are finished, which is expected to be the case in October next, the communication between Bombay remains very incomplete, and the objects for which the line was made cannot properly be accomplished. After the opening of the Bhore Ghât in April, it was found necessary to suspend the traffic in consequence of slips in the embankments. It was again opened in November. Referring to the probable effects upon the traffic when the Ghâts are traversed by the railway, the Consulting Engineer to the Government of Bombay, Captain Trevor, remarked in October last,—"The extensions into the cotton "districts of Berar and Nagpore, and the removal of those ghât barriers that have "led each monsoon to such disastrous losses both to the public and the Company, "will develope enormously the trade of the country, and will pour on the railways "such an increase of traffic as will probably render imperative the doubling of "the line in the Concan divisions." The losses referred to are occasioned by the great difficulty in providing adequate means for carrying on the traffic between the temporary termini at the head and foot of the ghât. Early in March this year the accumulation was such that it was expected to take thirty-seven days to clear it. These difficulties will vanish when the gaps are filled up and the ghât line is at work; in the mean while, an experienced Manager has proceeded to Bombay to organize proper traffic arrangements, and to place that department on a footing of permanent efficiency. The expenses of working the line during the past year have been greatly swelled by losses from fire, which the precautions hitherto adopted have failed to prevent. The greater portion of the cotton, being loosely packed, is liable to be easily ignited, and in one or two instances almost a whole train has been consumed. The establishment of presses for reducing the size of the bales, and putting them into proper shape, has become an urgent necessity. In the mean time, differential rates are charged for the conveyance of pressed and unpressed cotton, with the view of encouraging the former.

Statement No. I.

Statement showing the Amount of Receipts from Passengers and Goods, and of Working Expenses, during the Years ending 30th June 1859, 1860, 1861, 1862, and 1863.

Period.	Number of Miles open.	Receipts.			Working Expenses.			Net Receipts.
		Passengers.	Goods.	Total.	Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£
Half-year ending 31st December 1862 - -	464	69,528	83,756	153,284	75,327	19,693	95,020	58,264
Half-year ending 30th June 1863 - - - -	504	79,161	155,182	234,343	—	—	149,559	84,784
	Average.							
Year ending 30th June 1863	484	148,689	238,938	387,627	—	—	244,579	143,048
" " 1862	437¾	123,143	156,115	279,258	128,470	64,220	192,690	86,568
" " 1861	320	105,607	123,182	228,789	135,042	23,869	158,911	69,778
			Railway Materials.					
" " 1860	279	72,747	81,267 27,663	181,677	—	—	106,796	74,881
" " 1859	194	60,785	57,079 29,567	147,431	—	—	65,491	82,940

Statement No. II.

Statement showing the Proportion of Working Expenses to Gross Receipts, and the Proportion of Receipts from Passengers and Goods.

Period.	Proportion per cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1859	44·1	41·7	58·3
" " 1860	58·7	40·4	60·6
" " 1861	69·5	46·2	53·8
" " 1862	68·7	44·1	55·9
" " 1863	62·9	38·36	61·64

Statement No. III.

Statement showing the Number of Passengers conveyed during the Years ending 30th June, 1859, 1860, 1861, 1862 and 1863.

Period.	Number of Miles open.	Number of Passengers.				Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	4th Class.	
Year ending 30th June 1859	194	12,938	107,919	1,040,644		1,161,501
" " 1860	279	11,133	166,740	1,116,947		1,294,820
" " 1861	320	20,121	183,522	855,126	955,172	2,013,941
" " 1862	Mean, 416	22,448	147,883	1,996,673	342,958½	2,509,962½
" " 1863	" 484	26,201	157,434	2,754,416	Discontinued in Oct. 1861.	2,938,051

Statement No. IV.

Statement showing the Number of Passengers conveyed per Mile, and the Number per Mile in each Class.

Period.	Total Number of Passengers conveyed per Mile.	Number conveyed per Mile in each Class.			
		1st Class.	2d Class.	3d Class.	4th Class.
Year ending 30th June 1859	5,987	67	556	5,364	—
" " 1860	4,358	37	560	3,761	—
" " 1861	6,293	62	573	2,672	2,984
" " 1862	6,043	54	355	4,810	824
" " 1863	6,069	54	325	5,690	—

MADRAS RAILWAY.

45. This Company has now a length of 447 miles open for traffic, 406 on the South-West, and 41 on the North-West line, of which 14 on the latter were opened during the past year. The branch to Bangalore has not been completed so soon as was expected, but will be open in the course of the present year. The construction of the line towards Cuddapah is proceeding satisfactorily. The result of the surveys which were made of the line from Cuddapah to Hyderabad for the trunk line to Bombay was not encouraging. The alternative plan of taking it by Gooty and Raichore, and having a branch to Hyderabad, has been decided upon.

46. The traffic, whilst still moderate, is improving in a satisfactory manner. The receipts, both from passengers and goods, have increased, and the working expenses have decreased. The cost of maintenance remains high in consequence of the charge upon revenue of a considerable portion of the expense incurred in replacing wooden sleepers by those of iron. It is satisfactory, however, to observe a gradual reduction in the ordinary working expenses, and to find that for the last half-year those for working and maintenance together have been reduced from 75 to 64 per cent. Two lines of tramway are about to be constructed by the Indian Tramway Company, viz., from the Arconum Station on the Madras Railway to Conjeveram, and from the Arcot Station to Wallajanuggur, which will be of great help in developing the resources of those districts, and in promoting the traffic on the railway. In considering this Company's prospects of success, it should be borne in mind that the original cost of the South-West line presents a very encouraging feature. Including rolling stock, the outlay has not exceeded 10,000*l.* per mile, which, compared with that on lines in other parts of India, is very moderate.

47. The following Tables furnish the results of the traffic for the half-years ending 30th December 1862 and 30th June 1863, as well as of the previous years:—

STATEMENT No. I.

Showing the Amount of Receipts from Passengers, Goods, &c., and of Working Expenses, during the Years ending 30th June 1859, 1860, 1861, 1862, and 1863.

Period.	No. of Miles open.	Receipts.			Working Expenses.			Net Receipts.
		Passengers.	Goods, &c.	Total.	Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£
South-west Line: Half-year ending 31st Dec. 1862	406	43,146	41,183	84,329	36,495	23,720	60,215	24,114
" " 30th June 1863	"	48,235	52,503	100,738	40,080	36,279	76,359	24,379
	Mean.							
Year ending 30th June 1863	406	91,381	93,686	185,067	76,575	59,999	136,574	48,493
" " 1862	282	60,924	62,851	123,775	57,104	34,491	91,595	32,180
" " 1861	221	45,755	37,923	83,678	43,190	19,742	63,932	19,746
" " 1860	137	37,059	30,376	67,435	29,342	12,191	41,533	25,905
" " 1859	96	25,303	20,240	45,543	17,959	12,197	30,156	15,387
North-west Line: Half-year ending 31st Dec. 1862	35	1,970	1,454	3,424	—	—	2,088	1,336
" " 30th June 1863	41	2,942	2,687	5,629	2,980	854	3,834	2,795

Statement No. II.

Showing the Proportion of Working Expenses to Gross Receipts, and the Proportion of Receipts from Passengers and Goods.

Period.	Proportion per Cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
South-west Line:			
Year ending 30th June 1859	66·1	55·5	44·5
" " 1860	61·2	54·9	45·1
" " 1861	78·0	54·6	45·4
" " 1862	74·7	49·2	50·8
" " 1863	73·6	49·3	50·7

Statement No. III.

Showing the Number of Passengers conveyed during the Years ending 30th June 1859, 1860, 1861, 1862, and 1863.

Period.	Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
South-west Line:	Mean.				
Year ending 30th June 1859	96	929	11,598	276,422	288,949
" " 1860	137	2,346	10,346	795,289	807,981
" " 1861	221	2,774	10,428	969,287	982,489
" " 1862	282	8,626	47,695	1,025,218	1,081,539
" " 1863	406	9,788	71,966	974,558	1,056,312
North-west Line:	Average.				
Year ending 30th June 1863	37	530	3,050	132,801	136,381

Statement No. IV.

Showing the Number of Passengers conveyed per Mile, and the Number per Mile in each Class.

Period.	Number of Passengers conveyed per Mile.	Number conveyed per Mile.		
		1st Class.	2d Class.	3d Class.
Year ending 30th June 1859	3,069·7	9	180	2,879
" " 1860	6,535·2	17	77	5,805
" " 1861	4,445·6	13	46	4,385
" " 1862	3,835·	30	169	3,635
" " 1863	2,601·7	24	177	2,400

THE BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY.

48. The whole of this line from Grant Road, Bombay, to Ahmedabad is on the eve of being opened, the last section, from Bulsar to Bombay, having already been traversed by the Governor of Bombay and the chief authorities. Some important works still remain to be finished, including the terminal station at Bombay and the ultimate extension of the railway to its destined terminus at Colaba. Whether this extension shall be taken hereafter over land to be reclaimed from Back Bay, or whether it shall at once be taken through the town, is a question which is now being considered Colonel Kennedy, the Company's Consulting Engineer, has

passed the greater part of the year in superintending the works in Bombay, and, by his energy and zeal, has assisted to promote their completion.

49. The following Traffic Returns exhibit satisfactory results, but, considering they relate to the upper portion of the line only, and to a period when it was separated from Bombay by a distance which rendered it useless to that city, they afford very little criterion of what the future traffic will be:—

Statement No. I.

Showing the Amount of Receipts from Passengers and Goods, and the Expenses of Working, for the Years ending 30th June 1861, 1862, and 1863.

Period.	Number of Miles.	Receipts.			Expenses.			Net Receipts.
		Passengers.	Goods and Railway Materials.	Total.	Working.	Maintenance.	Total.	
	Average worked.	£	£	£	£	£	£	£
Half-year ending December 1862	153½	25,310	14,265	39,575	13,323	3,993	17,316	22,259
Half-year ending June 1863	183⅓	37,787	25,556	63,353	19,038	4,243	23,281	40,072
Year ending June 1863	166½	63,097	39,821	102,928	32,361	8,236	40,597	62,331
„ „ 1862	130	34,342	12,591	46,933	22,327	3,828	26,155	20,778
„ „ 1861	60	15,712	3,331	19,043	11,782		—	7,261

Statement No. II.

Showing the Proportion of Working Expenses to Gross Receipts, and the Proportion received from Passengers and Goods.

Period.	Proportion per cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1861	61·87	82·51	17·49
„ „ „ „ 1862	55·72	73·20	26·80
„ „ „ „ 1863	39·44	61·30	38·70

Statement No. III.

Showing Number of Passengers conveyed during the Years ending 30th June 1861, 1862, and 1863.

Period.	Average Number of Miles open.	Number of Passengers.				Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	4th Class.	
Year ending 30th June 1861	60	1,206	5,211	212,089	117,087	335,593
„ „ „ „ 1862	130	2,063	10,980	838,285	—	851,328
„ „ „ „ 1863	168½	2,713	11,785	803,572	—	818,070

Statement No. IV.

Showing the Number of Passengers per Mile open and the Number per Mile in each Class.

Period.	Number of Passengers conveyed per Mile.	Number conveyed per Mile.		
		1st Class.	2d Class.	3d Class.
Year ending 30th June 1861	5,593	20	87	5,486
„ „ „ „ 1862	6,548	16	84	6,447
„ „ „ „ 1863	4,963	16	70	4,816

THE SCINDE RAILWAY.

50. During the past year there has been a gradual improvement in the traffic of this line, both of passengers and goods, the gross receipts from which have increased from 62,000*l.* in 1862 to 100,000*l.* The expenses for working and maintenance still bear a high proportion to the receipts. The latter have been large, in consequence of the necessity for altering portions of the line which were found subject to inundations, and also for replacing the original sleepers, which, being of inferior wood, soon decayed. The ordinary expenses for working the railway will become less in proportion to the receipts as the traffic increases. The establishments which it is now necessary to maintain are equal to conduct a larger amount of business. The expenditure on the capital account has been about 200,000*l.*, having been applied to the completion of stations, &c.

51. The following Statement shows the amount of receipts and working expenses for the years ending 30th June 1862 and 1863:—

Period.	Number of Miles open.	Receipts from Conveyance of		Total Receipts.	Working Expenses.	Net Receipts.
		Passengers.	Merchandise, &c.		Working and Maintenance.	
		£	£	£	£	£
Year ending 30th June 1862 -	114	10,045	30,028	40,073	34,631	5,442
" " " " 1863 -	114	13,196	76,717	89,913	70,919	18,994

The proportion of working expenses to the gross receipts, and the proportion of receipts from passengers and goods will be seen by the following Table:—

Period.	Per-centage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1862 -	86·41	25·06	74·96
" " " " 1863 -	78·86	14·67	85·33

Statement showing the number of passengers conveyed:—

Period.	Number of Miles open.	1st Class.	2d Class.	3d Class.	Total Number of Passengers conveyed.
Year ending 30th June 1862 -	114	491	5,140	84,494	90,125
" " " " 1863 -	114	457	7,143	117,489	125,089

THE INDUS FLOTILLA.

52. The flotilla has kept up a bi-monthly communication between Kotree and Moultan, and has performed voyages between Kotree and Sukkur by means of the tug steamers. A powerful tug steamer is now being built for the purpose of assisting vessels during the rainy season through the Sukkur Pass, when the current is very rapid.

53. The boats built by Messrs. Richardson & Duck for the Company are still unserviceable, and are reported as never likely to be of much use on the Indus. The contract between the Company and this firm has been a source of great annoyance and disappointment, and a reference has been made to arbitrators with

the view of coming to some settlement in regard to it. Without prejudice to the result of this proceeding, the boats, six in number, have been taken over by the Company, and will be made such use of as is found to be possible.

54. The gross earnings during the year have been 63,953*l.* 14*s.* 6*d.*, and the working expenses are stated to have been 48,919*l.* 1*s.* 1*d.*, but as this does not include the contributions to the depreciation and insurance funds provided for under the contract, the net receipts would be considerably reduced. There is not at present, therefore, much ground for congratulation on the results of the traffic, especially when the large unprofitable expenditure on the boats of Messrs. Richardson & Duck are taken into account. The possibility that the Flotilla may ultimately have to be superseded by a railway has been acknowledged by the Government, who have sanctioned the prosecution of surveys on both sides of the River Indus, for the purpose of ascertaining the best route for a line from Kotree to Moultan. These surveys are now being conducted by Mr. Brunton, the Chief Engineer of the Scinde Railway, who proceeded with a staff to India in the autumn of last year.

THE PUNJAB RAILWAY.

55. The works on this line have, during the past year, been pushed on vigorously, and it is confidently expected that the whole line will be finished in the course of the present year, being probably opened by the Governor General, Sir John Lawrence, who, when Lieutenant Governor of the Punjab, turned the first sod in February 1859. On the Moultan end of the line 11½ miles were opened in May. There has been an expenditure of about 421,000*l.* on capital account.

56. The traffic between Lahore and Umritsir, which section has now been opened about two years, is not at present so large or so lucrative as was expected. It is too short to be made use of for the through traffic. That between Moultan and Sher Shah is necessarily very limited, but the line has rendered great service in the work of construction by conveying materials to the unopened portion.

57. The following Table furnishes particulars in regard to the traffic for the year ending 30th June 1863.:—

Period.	Length open.	Receipts.		Total.	Expenses.	Net Receipts.	Number of Passengers.			
		Passengers.	Goods.				1st Class.	2d Class.	3d Class and Military.	Total.
		£	£	£	£	£				
Half-year ending 31st December 1862 -	43	5,350	110	5,460	3,940	1,520	912	1,144	160,671	162,727
Half-year ending 30th June 1863 - -	43	6,843	412	7,255	4,403*	2,852	1,374	2,863	189,862	194,099
Half-year ending 30th December 1863 -	43	6,097	465	6,562	5,865†	697	1,747	4,054	175,710	181,511

* Including two months of Maintenance. † Including Maintenance.

58. In addition to the above, 6,865 passengers and 4,198 tons of merchandise were carried on the Sher Shah branch.

THE DELHI RAILWAY.

59. The route for this line has now been definitely settled, but its construction has not yet been commenced in good earnest. Pending the decision in regard to the propriety of accepting the tender which has been received for the construction of the section of the line between Umritsir and Umballah, arrangements have been made in India for the earthwork and the supply of bricks and other material for a portion of the line, and it is expected that the Company will very shortly be in a position to take steps for providing the iron-work for the superstructure of the several large bridges which will have to be constructed over the rivers which occur on the line. Its length will now be 320 instead of 300 miles. Starting from Umritsir, it will go across the Beas river, at Wuzeer Ghât, to Jullundur; from thence, running between Kurlarpoor (3 miles off) and Kussoorkulee (4 miles), it will cross

the Sutlej at Philloor, and go on to Umballa by Loodhiana and Sirhind; it will then cross the Jumna at Saharunpoor, pass over the Gaggur and Markunda rivers and proceed to Mozuffernugger, Meerut and Ghazeeabad, where it will join the East Indian line and with it enter Delhi by a branch which, with the bridge over the Jumna, is being constructed by the latter Company.

60. A large amount of capital, viz., 1,850,000*l.*, was last year raised, in the hope that operations would be commenced at an early period, but only about 50,000*l.* has been expended. The execution of the bridges on the line will occupy several years, so that an early and vigorous prosecution of these works is particularly desirable.

THE EASTERN BENGAL RAILWAY.

61. This line has now been opened for above a year, and the results of the traffic cannot but be regarded as very satisfactory. The gross receipts have increased from 33,748*l.* in the first half-year, to 42,603*l.* in the second, and the net profits from 17,421*l.* to 21,954*l.* in the same periods. A short branch, 2½ miles in length, from near Kooshtee to the River Gorai, where there is a convenient place for vessels and boats to stop and unload, has just been constructed.

STATEMENT No. I.

Showing the Amount of Receipts from Passengers, Goods, &c., and of Expenses during the Half-year ending 30th June and 30th December 1863. The whole (110 miles) open.

Period.	Receipts from				Expenses.			Net Receipts.
	Passengers.	Goods.	Miscelaneous.	Total.	Working.	Maintenance.	Total.	
	£	£	£	£	£	£	£	£
30th June 1863 -	24,041	8,802	905	33,748	16,327	—	16,327	17,421
31st December 1863 -	26,887	13,758	1,958	42,603	18,340	2,309	20,649	21,954

STATEMENT No. II.

Showing Proportion of Expenses to Receipts, and of Receipts from Passengers and Goods.

Period.	Per Centage of Working Expenses to Gross Receipts.	Proportion per Cent. of Receipts from		
		Passengers.	Goods.	Miscellaneous.
Half-year ending 30th June 1863	48·38	71·24	26·08	2·68
„ „ 31st Dec. 1863	48·47	63·11	32·29	4·6

STATEMENT No. III.

Showing the Number of Passengers conveyed.

Period.	Miles open.	Number of Passengers conveyed.			
		1st Class.	2d Class.	3d Class.	Total.
	Average.				
29th September to 31st Dec. 1862	77¼	5,398½	6,170	107,572	119,140½
Half-year ending 30th June 1863	110	15,362½	14,616	392,186	422,164½
„ „ 31st Dec. 1863	110	20,054	20,692½	474,244	514,990½

STATEMENT No. IV.

Showing the Number of Passengers conveyed per Mile, and the Number per Mile in each Class.

Period.	Total Number of Passengers conveyed per Mile.	Total conveyed per Mile.		
		1st Class.	2d Class.	3d Class.
29th September to 31st December 1862	1,532·3	69·4	79·3	1,383·6
Half-year to 30th June 1863 - -	3,837·9	139·7	132·9	3,565·3
„ 31st December 1863 -	4,681·7	182·3	188·1	4,311·3

THE GREAT SOUTHERN.

62. This line has now been opened for upwards of a year and a half. An extension has, during the past year, been sanctioned from Trichinopoly to Errode, a distance of 82½ miles, and construction operations have commenced.

63. Compared with last year, there has been a small increase in the receipts both from passengers and goods, but the traffic is still insignificant. The absence of roads to some of the stations, and the want of accommodation in Negapatam Harbour, help to check the development of the traffic. Both these impediments are about to be removed. The following Tables will furnish the details:—

TABLE I.

Showing the Amount of Receipts from Passengers and Goods, and of the Working Expenses, &c.

Period.	Miles open.	Receipts from			Expenses of Working and Maintenance.	Net Receipts.	Proportion per Cent. of Expenses to Receipts.
		Passengers.	Goods, &c.	Total.			
		£	£	£	£	£	
Half-year ending 31st December 1862 - -	79	7,487	4,667	12,154	5,304*	6,850	43·60
Half-year ending 30th June 1863 - -	79	8,043	6,250	14,293	6,947*	7,346	48·60
Half-year ending 31st December 1863 - -	79	8,413	6,078	14,491	6,293†	8,198	43·11

* No Maintenance charge included. † Of this 410*l.* was for Maintenance.

TABLE II.

Statement showing the Number of Passengers conveyed.

Period.	Number of Miles open.	Number of Passengers.			
		1st Class.	2d Class.	3d Class.	Total.
Half-year ending 31st December 1862	79	708	3,463	159,582	163,753
„ „ 30th June 1863 -	79	785	6,337	157,690	164,812
„ „ 31st December 1863	79	752	2,196	151,192	154,140

CALCUTTA AND SOUTH-EASTERN.

64. The circumstances of this line are somewhat exceptional. Designed with the chief object of making the Mutlah estuary serviceable to Calcutta as a port, the railway has been made before the conveniences of a port and the accommodation requisite for a commercial place of business are provided. The roads to several of the stations are also still very unfinished. It is not, therefore, surprising that, while in this incomplete state, the traffic on the railway is small and unremunerative. When the jetty now in course of construction at the Mutlah terminus is finished, and when proper arrangements are made for loading and unloading vessels and storing their cargoes, a gradually increasing proportion of the trade into Calcutta may be expected to go by the railway. Even with the imperfect accommodation now afforded, several vessels have taken their cargoes to the Mutlah.

65. The number of passengers conveyed during the year ending 30th June 1863 was 175,981, consisting of 1,539 first class, 5,964 second class, and 168,478 third class.

MISCELLANEOUS.

Audit.

66. Amongst the various questions which have been discussed during the past year, that of establishing an efficient system of audit has engaged much attention, especially in the case of the East Indian Railway Company; and a plan is now being carried out, at the suggestion of the Directors of that Company, which will ensure a speedy and concurrent examination of accounts, both by the railway and Government auditors. The importance to a large undertaking like that of the East Indian Railway of a good system of audit can hardly be overrated, as by no other means can so efficient a check be provided against negligence, extravagance, and irregularities of any kind. It is impossible to pass from this subject without alluding to the successful exertions of Mr. G. N. Taylor, of the Madras Civil Service, who was appointed by the Government of India to investigate the whole subject of railway accounts and management. In the process of his inquiries, many valuable and important suggestions have been made by him, which have led to very useful results.

Charges to Capital and Revenue.

67. Another interesting question, which has been satisfactorily determined during the past year, is that relating to the regulation of charges to capital and revenue, respectively, after a line has been once opened for traffic. The 12th clause of the contract between the Government and the Railway Companies provides for the charge to capital of the cost of such "additions, alterations, and improvements" as, having been made with the approval of Government, "are properly applicable to capital." It was desirable to define, as clearly as possible, what are so *properly* chargeable; and, after fully discussing and considering the matter, and ascertaining the practice which prevailed on some of the best managed lines in this country, rules, with examples, for the guidance of the officers of the Government and of the Railway Companies, have been embodied in a Despatch to the Government of India, copy of which will be found in the Appendix.

Fire Insurance.

68. I may also mention that most of the Companies (and I have no doubt that all will do the same) have established a fund to meet losses from fire, by setting apart half-yearly a certain per-centage of the gross receipts. By thus spreading the amount of any serious loss over several years, instead of allowing it to fall upon one year's revenue, a more just and equitable distribution of such loss is secured.

SUMMARY.

69. To sum up the foregoing statements,—two thousand six hundred and eighty-seven (2,687) miles are now open, of which 233 were completed during the past year.

70. The whole amount of capital that has been raised and expended is 54,285,088*l.* and 51,144,722*l.* respectively, of which 6,066,966*l.* and 4,775,861*l.* was raised and expended during the year 1863–64.

71. The number of proprietors of Indian railway securities has increased, during the year, from 31,420 to 33,358, of which only 395 are natives of India.

72. The materials which have been sent out from this country for the railways since their commencement amount to 15,128,856*l.* in value, and to 2,764,781 tons in weight, and 357 ships were employed to convey them to India. Last year 166,840 tons of materials, of the value of 1,285,464*l.*, were despatched in 279 ships.

73. The total gross earnings from the 2,248 miles over which traffic was, on the average for the year, carried were about 1,720,000*l.*, and the net receipts were about 780,000*l.*

74. The sums which have been advanced by the Government during the last thirteen years for the guaranteed interest on the capital amounted, on the 31st December 1863, to 10,592,795*l.*, of which 2,323,605*l.* was paid last year. Of the former sum about 2,400,000*l.* has been paid back by the Railway Companies from their net earnings, half of this amount having been realized during the last two years, and nearly a third in the last year alone.

75. The number of passengers conveyed during the past year was 9,242,540, consisting of, first class, 97,674, second class, 386,404, third class, 8,758,462, being 2,758,102 more than the previous year.

I have the honour to be,

Sir,

Your most obedient Servant,

JULAND DANVERS.

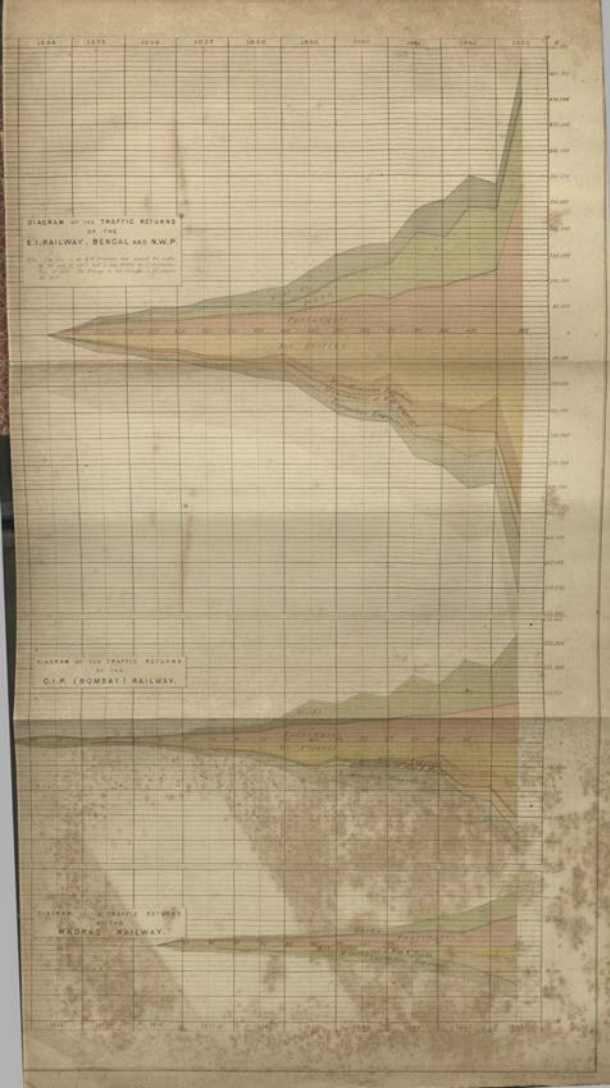
DIAGRAM OF THE TRAFFIC RETURNS OF THE E.I. RAILWAY, BENGAL AND N.W.P.
DIAGRAM OF THE TRAFFIC RETURNS OF THE G.I.P. (BOMBAY) RAILWAY.
DIAGRAM OF THE TRAFFIC RETURNS OF THE MADRAS RAILWAY.

APPENDIX.

Copy of a Despatch from the Secretary of State for India in Council to the Governor General of India in Council.

To His Excellency the Right Honourable the Governor General of India in Council.

India Office,
London, 9th March 1864.

Sir,

I have received and considered in Council the Despatch from your Government, No. 45, dated the 7th July 1863, relating to the question of placing to Capital or Revenue Account the expense incurred on the East Indian Railway in two particular instances, which, as you justly observe, are not very important in themselves, but the decision of which involves "an important principle in respect to future authorization of expenditure on construction account."

2. I fully admit the importance of the question, which is, in fact, which is the proper interpretation of the clause in the Contracts with Railway Companies, which provides that, "upon "any additions, alterations, or improvements, such as shall be properly chargeable to the "Capital Account, being thereafter made with the sanction and approval of the East India "Company, * * * * the cost necessarily incurred * * * * shall be added to the "said Capital Account, and the said Capital Account shall be from time to time made up and "stated afresh, as occasion shall require, and shall be ascertained and certified accordingly."

3. I have hitherto deferred addressing you in reply, in order that I might obtain information as to what is the practice on the best managed lines, and what are the views entertained on the subject by the most eminent railway authorities in this country. The practice and views thus ascertained are obviously of the greatest value in determining the interpretation to be placed upon the above cited clause.

4. With this information before me, and after full consideration, I have come to the conclusion that the cost of erecting the furnaces for engine-lighting purposes may properly be treated as additional machinery or plant requisite for the efficient working of the line, and, as such, may be charged to capital in the same manner as the original plant. These furnaces having been erected, due provision for the purpose they were intended to serve will have been made, and if at any future time any different contrivance should be substituted for the furnaces, the expense of the substitution should be charged to revenue, for capital must not be charged twice over.

5. The second case is that of conversion of a blind siding at an existing station, into a *through siding*, connected at both ends with the railway, for the permanent convenience and even safety of the traffic. In this case also, I am of opinion that the conversion, being not merely a substitution of one species of structure for another, but a permanent enlargement and improvement in the character and object of the previous imperfect structure, the cost should be provided from capital.

6. The foregoing observations will, I trust, sufficiently explain my views as to the particular cases to which your Government has called my attention.

7. I think it advisable, however, to take this opportunity of laying down some general rules which may be of assistance in enabling you to decide questions of charging expenditure to capital or to revenue.

8. There can be no doubt that the expense of an additional length of railway, of the doubling of an existing line, of the original construction of any work, including that of those intended to be only temporary, as well as of all additions to existing works, ought to be charged to Capital Account.

9. When new lines form a junction with an existing railway, the expense of the junction and all its concomitant appliances of station, sidings, signals, &c., is properly chargeable to Capital Account; and the cost should be divided, in such proportion as may be fair, between the two Companies for whose mutual and joint benefit the junction is made.

10. The cost of additional stations and of any important building, not previously contemplated, which is added to an existing station, should be charged to Capital Account.

11. The cost of maintaining, in a proper condition, the works when completed must be charged to the Revenue Account; but if any extraordinary casualty should occur, such as the

destruction of a bridge by flood, the case must be regarded as exceptional, and the cost of construction or replacement must be charged to capital or revenue, or divided between them, as may be deemed proper, according to the circumstances of the case.

12. In relaying rails, if the original rails have proved too light, and additional strength in weight of iron or steel be required, the Capital Account should bear the difference between the cost of the new and improved rails and that of replacing the old rails by rails of similar character, revenue being chargeable for relaying and all other expenses. The same principle should be applied to replacing by iron sleepers those of wood originally laid down.

13. In the locomotive stock, the capital ought to bear the first expense of any addition which may be made to the existing stock, and of any important improvement or alteration which may be made in the same, as well as of all machinery which is absolutely new, and not merely in replacement of old; but all repairs and less important alterations of the existing stock of engines, carriages, or waggons already paid for, and handed over for working purposes, should be charged to revenue. The rolling stock and plant, after being once paid for from the capital, must be kept up by revenue to its full complement.

14. In no case should the cost of mere appurtenances of stock, after the opening of a line, or of a change, such as the substitution of one mode of lighting for another, whether in engines, carriages, stations, or signal lamps, the cost of which has been already paid for out of capital, be admitted as capital expenditure. These properly belong to the Traffic Revenue Account.

15. These rules have been drawn up in communication with the Boards of the several Indian Railway Companies, and have received their acquiescence generally; and, with such plain directions for their mutual guidance, the Government Consulting Engineers and the Agents of the Companies can seldom have any real occasion for difference on the points to which the rules relate.

16. It is obvious that the application of the principle on which the above rules are based involves the necessity of making, from time to time, additions to the capital of a Railway Company. I am aware that an order issued in reference to this subject has elicited from the Government of Bombay representations, which are at present before you, but into the merits of which I defer entering for the present, and until I shall be in possession of your reply to them. In order, however, to remove any danger of misapprehension in the use of the terms "closing the Capital Account," it seems advisable here to point out, that finally to close a railway Capital Account, either upon the first opening of the line, or indeed at any given period, may be regarded as practically impossible, inasmuch as to do so would imply that the utmost requirements for its future working or construction had been provided for at the period of closing. This never can really be the case, as it is invariably found that the traffic upon a railway steadily and progressively increases long after its opening, and, therefore, finally to close the Capital Accounts of the Indian railways, and prevent the application to them of any additional capital, must be fraught with injury to all parties, whether guarantors or guaranteed.

17. For these reasons, the final closing of the Capital Accounts is not contemplated in the contracts between the East India Company and the different Railway Companies, and provision is made for keeping them open, so as to allow of future extension of the capital, in order to meet certain expenses which may be required under the heads of additions, alterations, and improvements. It is at the same time provided that the Capital Account should from time to time be made up, in order to carry out certain provisions of the contracts. This is quite necessary, and will assist in carrying out that control over expenditure on account of capital which is essential to the fair and proper adjustment of the Capital and Revenue Accounts, and to the permanent welfare of any Company.

18. I have only to add, that the above directions are not to interfere with the arrangement which has been made with each Company for allowing the cost of maintenance for one or two years after the opening of the railroad, as the case may be, to be charged to capital.

I have the honour to be,

Sir,

Your most obedient, humble Servant,

(Signed) CHARLES WOOD.

LONDON:
Printed by GEORGE E. EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty
For Her Majesty's Stationery Office.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1864-65.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
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FOR HER MAJESTY'S STATIONERY OFFICE.

1865.

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REPORT.

To the Right Honourable Sir CHARLES WOOD, Bart., G.C.B., M.P., Secretary of State for India, &c. &c.

SIR, India Office, 8th May 1865.

I HAVE the honour to lay before you my sixth annual Report on Railways in India, being that for the year 1864–65.

2. On the 1st January 1864 the length of line open for traffic was 2,519 miles. This has now been increased to 3,186¼ miles by the addition of 448¾ miles previous to, and of 218½ since the 31st December last.* About 1,700 miles remain to be finished to complete the system of guaranteed lines now in course of construction. A few years will, probably, elapse before the whole will be ready for traffic. Sections of considerable length, and embracing works of great magnitude, such as those between Delhi and Umritsur, and between Sholapore and Cuddapah on the line from Bombay to Madras, have only recently been commenced. Those also between Allahabad and Jubbulpore on the East Indian Railway, and between Jubbulpore and Bhosawul on the Great Indian Peninsula, which are required to complete the communication between Calcutta and Bombay, will, probably, not be finished for two or three years from this time. The full benefits of the Railway system will not be felt until it has become one entire whole; but, in the mean time, lines of considerable length and of immense utility are being worked to very great advantage. Length of line open, and progress of works in India.

3. The most important sections which have been opened during the past year are the Thull Ghât Incline, on the Great Indian Peninsula Railway, and that portion of the Bombay and Baroda Railway which lies between Bulsar and Bombay. Although not great in extent, the one being only 10, and the other 121 miles, both were required to fulfil the objects of either undertaking. Until the Baroda railway reached Bombay, that line was cut off from its chief source of traffic, and until the Thull Ghât was traversed by the Great Indian Peninsula Railway, a break occurred in the line between Bombay and the great cotton districts of Central India, which caused the utmost inconvenience to the public and great expense to the Company. The heavy and difficult works on this incline have been described in a previous report. It is now, therefore, sufficient to state that, in a distance of about 10 miles, the railway climbs a height of nearly a thousand feet, the steepest gradient being 1 in 37 for 4 miles 30 chains, and the sharpest curve 17 chains radius for a length of 33 chains. There are 13 tunnels, of an aggregate length of 2,652 yards, and viaducts to the extent of 741 yards, one of 250 yards being 200 feet in height. The cost of this incline has been about 50,000*l.* a mile. Thull Ghât incline.

4. On the eastern side of the peninsula another useful line has been opened during the past year, viz., the branch from the Madras Railway to Bangalore, which brings that important military station and the salubrious climate on the Mysore table land to within eight hours journey of Madras.

5. The following table shows the length of each line now open for traffic, and the extent remaining to be finished:—

* This is exclusive of the 26 miles of lighter railway constructed by the Indian Branch Railway Company.

Railway.	Total Length as at present sanctioned. (given approximately).	Length opened during 1864.	Length opened since 1st January 1865.	Total Length now open (1st May 1865).	Length remaining to be finished in			
					1865.	1866.	1867 and subsequently.	Total.
	Miles.							
East Indian - { Main line* -	1,271½	170	—	1,126	—	1½	144	145½
East Indian - { Jubbulpore line -	225	—	—	—	—	—	225	225
Great Indian Peninsula - -	1,266	32¾	9½	595¼	120	150	400¾	670¾
Madras - { S.-W. line and Bangalore branch - - -	492	85	—	492	—	—	—	—
Madras - { N.-W. line - -	360	38	—	79	71	—	210	281
Bombay, Baroda, and Central India -	312	121	—	306	—	—	6	6
Scinde - - - - -	114	—	—	114	—	—	—	—
Punjab - - - - - -	253	—	209	252	—	—	—	—
„ Delhi - - -	320	—	—	—	—	—	320	320
Eastern Bengal - - -	114	2	—	114	—	—	—	—
Great Southern - - -	161	—	—	79	—	82	—	82
Calcutta and South-Eastern - -	29	—	—	29	—	—	—	—
Total - - - -	4,917½	448¾	218½	3,186¼	191	233½	1,305¾	1,730¼

* Including the chord line by Barrakur.

Length of double line.

6. At present, only a very small proportion of the lines are double. At all the stations a considerable length of siding is provided, but, irrespective of this, only about 124 miles are constructed with double lines, viz., 67 on the East Indian, between Howrah (Calcutta) and the junction of the Raneegunge branch with the main line, and 57 on the Great Indian Peninsula. On this railway the doubling of 42 miles more has recently been sanctioned, by which addition the whole of the line from Bombay to the head of the Thull Ghât will be double.

7. The propriety of doubling further portions of the Bengal division of the East Indian Railway is also under consideration.

8. With regard to the proposed extension of the Raneegunge and Barrackur branch of the East Indian Railway, through the Kurhurbalee coal fields, to some point on the main line, the Government of India has just decided that it shall be taken across the Nargoonjoo Pass to Luckeserai, a length of 118 miles, a branch of 26 miles being made to the coal fields. This chord line will shorten the distance between Calcutta and the North-West by 71 miles. It is estimated that it will cost upwards of 2,000,000*l.*

Roads to Railway Stations.

9. The development of the traffic on some of the railways is still, to a certain extent, retarded by the absence, or the imperfect condition, of the roads leading to the stations. If this description of feeder could have been provided simultaneously with the completion of the railways, the difficulty which in some cases occurs in bringing the traffic from the old lines of communication, especially during the rains, would not be so great as it now is; but, with every desire to promote the execution of such roads, the Government was unable, without neglecting other even more important claims, to devote a larger share of the limited funds at its disposal to the purpose. The question is important as affecting the railway receipts, and it is satisfactory to find that in the Budget grants for Public Works for the ensuing year, the Government of India states, that "the progress "of the railway construction continues to demand a large expenditure for the "construction of roads, by which the traffic of the country may be more freely "brought on the great lines of communication."

Effects of the Cyclone in Bengal.

10. The hurricane which swept over a part of lower Bengal on the 4th and 5th of October last spent its fury in the neighbourhood of Calcutta, and damage to a considerable extent, although not so great as might have been expected, was done to the works of the three railways which have their termini there. The total loss is estimated at 23,245*l.*, the East Indian suffering to the amount of 9,515*l.*, the Eastern Bengal of 12,600*l.*, and the Calcutta and South-Eastern of 1,730*l.* No lives,

either among passengers or railway servants, appear to have been lost on the occasion, although part of a train on the Eastern Bengal Railway, including the engine, was blown over, and the roofs of stations and sheds were swept away. The traffic on the lines was not interrupted, but the telegraphic communication was stopped for some days.

Effects of the monsoon in Bombay.

11. On the western side of India, the monsoon in the middle of the year was marked by unusual violence, and the works on the Bombay lines sustained considerable damage from the floods. On the Great Indian Peninsula Railway, the embankments of a culvert were washed down on the 27th June; and, on the following day, a viaduct of 12 spans of 30 feet iron girders was destroyed, nine spans having been carried away. The former disaster was unhappily followed by a frightful accident. A night train passing by, soon after the culvert had given way, ran into the gap, and 14 Native 3d-class passengers were killed on the spot, many more being seriously injured. Six spans of the great bridge which takes the Bombay and Baroda Railway over the Nerbudda river were also swept down by the force of the floods. Fortunately no loss of life occurred, but the traffic has been interrupted for several months, and the repairs and additions have cost upwards of 12,000*l.*

Work done in this country.

12. In this country the various Boards, besides being engaged in exercising a general supervision over the proceedings of their Officers in India, and in directing the affairs of the respective Companies, assist in the construction of the works by providing and sending out the materials for the iron bridges and permanent way, as well as the locomotive engines and rolling stock, and the numerous appliances necessary for working a railway. Those Companies whose works are not in Bengal have also sent out coal and coke in large quantities. During the past year, materials and stores to the amount of 102,318 tons, and of the value of 1,018,164*l.* have been shipped to India, in 233 vessels. This, added to the shipments of former years, gives a total of 2,867,099 tons of railway materials of the value of 16,147,020*l.*, which have been sent out in 3,834 ships to India by the Companies during the last 15 years, exclusive of what has been sent by the contractors employed in executing some of the works.

Shipments of materials to India.

13. The particulars of last year's consignments are given in the following table:—

Railway Company.	Number of Ships employed in 1864.	Amount of Goods shipped in 1864.	Value of Goods shipped in 1864.	Amount paid for Freight and Insurance in 1864.
		Tons.	£	£
East Indian	17	18,117	214,001	23,810
Great Indian Peninsula	69	22,910	233,483	33,797
Madras	72	36,073	282,481	55,844
Bombay, Baroda, and Central India	32	12,454	154,892	26,869
Scinde	25	3,157	41,421	6,876
Punjaub		5,446	53,545	10,161
Indus Flotilla		74	1,492	212
Delhi		38	1,382	90
Eastern Bengal	11	917	12,446	1,333
Great Southern	4	3,060	22,696	5,430
Calcutta and South-Eastern	3	72	325	106
Total	233	102,318	1,018,164	164,528

During the past year not one ship engaged on this service has been lost.

Number of locomotive engines and rolling stock.

14. The following table shows the number of locomotive engines, carriages, &c, belonging to each Company and the number added during the year 1864 :—

Railway.	Locomotives.			Carriages.		Trucks and Waggons.		Total Number of Vehicles on 31st December 1864.
	Former Number.	Added in 1864.	Total Number, 31st Dec. 1864.	Former Number.	Added in 1864.	Former Number.	Added in 1864.	
East Indian - - -	260	51	311	476	42	3,594	563	4,675
Great Indian Peninsula -	96	22	118	270	—	3,004	222	3,496
Madras - - -	75	1	76	154	11	1,531	276	1,972
Bombay, Baroda, and Central India - - -	53	12	65	236	—	2,866	255	3,357
Scinde - - -	26	5	31	57	9	581	66	713
Punjaub - - -	5	3	8	22	14	105	35	176
Eastern Bengal - -	20	—	20	102	—	370	—	472
Great Southern - - -	11	—	11	33	—	167	4	204
Calcutta and South-Eastern -	6	—	6	42	—	157	—	199
Total - -	552	94	646	1,392	76	12,375	1,421	15,264

Proprietors of India railways.

15. Almost the whole of the capital required for the Indian Railways is raised by the Boards in this country. This operation involves the further duty of keeping registers of the shareholders, of issuing the dividends, of holding periodical meetings, and of performing other functions of a Joint Stock Company incorporated by Act of Parliament. The aggregate amount of capital which has been raised is about 58,000,000*l.* The following statement gives the number of proprietors in each Company among whom that sum is divided. The number of holders has increased from 33,358 on the 1st January 1864 to 36,533 on the 1st January 1865.

Railway.	Number of Shareholders on the 31st December 1864.						Number of Debenture Holders.	Total Number of Proprietors, 31st December 1864.
	Registered in England.			Registered in India.				
	With Stock to the Amount of 1,000*l.* and upwards.	With Stock of less Amount than 1,000*l.*	Total Number in England.	Europeans.	Natives.	Total in India.		
East Indian - - -	4,776	5,004	9,780	165	96	261	2,763	12,804
Great Indian Peninsula -	2,841	3,864	6,705	86	137	223	1,044	7,972
Madras - - -	1,818	2,445	4,263	—	—	—	813	5,076
Bombay, Baroda, and Central India.	1,231	2,013	3,244	21	69	90	830	4,164
Scinde - - -	510	613	1,123	16	3	19	290	1,432
Punjaub - - -	475	733	1,208	17	2	19	63	1,290
Delhi - - -	440	594	1,034	40	6	46	—	1,080
Indus Flotilla - -	87	203	290	—	—	—	120	410
Eastern Bengal - -	309	431	740	8	20	28	357	1,125
Great Southern - -	202	353	555	4	11	15	90	660
Calcutta and South-Eastern.	111	250	361	27	49	76	83	520
Total - -	12,800	16,503	29,303	384	393	777	6,453	36,533

UNGUARANTEED RAILWAYS.

Unguaranteed Railways.

16. The unguaranteed Railway Companies, which still consist only of the Indian Branch Railway Company and the Indian Tramway Company, have made but moderate progress in their respective undertakings during the past year. The branch from the East Indian Railway at Nulhattee to Azimgunge, belonging to the Branch Railway Company, has been open, but it does not appear to have yet succeeded in withdrawing the traffic from its old channels. Having obtained from the Government the concession of an important system of railway communication between Bengal and the North-West Provinces through Oudh and Rohilcund, the Company has commenced operations on the section between Cawnpore and Lucknow, a line well situated for commanding an extensive traffic.

17. The principal conditions of the agreement proposed to be made (but not yet quite settled) between the Branch Railway Company and the Government are briefly these:— Terms of Contract with the Branch Railway Company.

The land necessary for the Railway and the permanent works thereof is granted to the Company by the Government free of cost for a term of 99 years. The direction of the line is to be approved by the Government, to whom also is to be submitted drawings and descriptions of the works, machinery, &c., if called for. The railway is to be for a single line, with a gauge of 5 feet 6 inches, and suited for travelling at a speed of not more than 15 miles per hour. On the completion of the works being certified by the Government Inspecting Officer, the Government is to grant to the Company, while the lines are worked, a subsidy of Rs. 1,000 per mile per annum for 20 years for every mile open. In addition to the above, the Government is to pay to the Company annually, for a period of 20 years, a sum of Rs. 10,000 for every Rs. 1,00,000 of the estimated first cost for each bridge that exceeds, in estimated cost, the sum of Rs. 1,00,000. Import duty on the permanent way, &c. is to be remitted on the completion of the works. The Company is to carry the mails free of charge, and officers and soldiers and public stores at charges one-third less than the ordinary rates. On the expiry of 99 years, the immoveable property in the railway is to pass to the Government, the engines, carriages, machinery, and plant being purchased by the Government at a valuation, but the Company is to have the option of purchasing back the railways for a further period of 99 years, on a valuation of the land and the works forming the roadway, the buildings, machinery, rolling stock, and telegraphs not being taken into account in the said valuation. At any time within six months after the expiry of 20 years from January 1870, and of each ten years following, the Government may, on giving one year's notice, purchase the railway, after paying back the capital expended, together with 5 per cent. on that sum, or, if the Company prefer it, an annuity, calculated on the average of the profits of the five preceding years, or on the profits of the last year. At any time, within a period of five years from the opening of the railways, the Company may, on giving six months' notice, withdraw from the working of the lines, and, unless the Government purchase the same, may take away all moveables, such as permanent way, machinery, and rolling stock, the buildings, ballasts, &c. becoming the property of Government. In the event of the Company failing, except from causes beyond their control, to open the lines, or to maintain and work them, the Government may take possession thereof; but should the railway thus come into the possession of Government, and the Government should sell or lease the works, three-fourths of the net proceeds or three-fourths of the net yearly profits, or the equivalent thereof, are to be paid to the Railway Company.

18. The Indian Tramway Company has hitherto confined its operations to a branch line connecting Arconum, on the Madras Railway, with Conjeveram, about 17 miles distant. This line is expected to be finished and ready for traffic very shortly, and it is hoped that the success which its position and circumstances seem to command, will be an encouragement to the Company to proceed with other lines which are included in their general scheme. The Indian Tramway Company.

19. Two important subjects connected with the extension of railways in India have engaged the attention of the Government during the past year, viz., the establishment of a direct line of communication from Bombay, through Central India, to the North-Western Provinces, and the junction, at one central terminus in Calcutta, of the East Indian, the Eastern Bengal, and the Calcutta and South-Eastern Railways. This latter plan, which necessarily embraces the construction of a bridge over the Hooghly, is being investigated by a Government Commission now sitting in Calcutta. Proposed lines from Bombay through Central India. Proposed Central Terminus in Calcutta for the Bengal lines.

20. The question of Railways for Central India has also been considered by a Committee appointed by Government, and they have reported in favour of a system which embraces lines from Delhi and Agra, on the East Indian line, to Jeypore, where they are to form a junction; a line from thence to the Great Indian Peninsula Railway, through Ajmere, Nusseerabad, Neemuch, Rutlam, and Indore; and another to connect the Bombay and Baroda Railway at Baroda with the above. Several Native States would be traversed by these lines. It would accordingly be necessary to make arrangements with the Native Chiefs for the provision of land, and the grant of such facilities as may be required to secure a safe and uninterrupted communication. Negotiations on the subject have already been commenced with the Maharajahs Holkar and Scindia and the Dhar Rajah. No difficulty is apprehended in making satisfactory arrangements with these Chiefs. All have Lines for Central India. Arrangements with Native States.

agreed to make over the land required for the railway, free of charge; and other matters, such as the abolition of the transit duties on goods conveyed by railway, and the jurisdiction over the land occupied by the line, will probably be settled to the satisfaction of all parties. But the first difficulty with these projects is that of raising the requisite capital for carrying them out. The success of those which have been undertaken will be the best stimulus to future enterprise. It is clear, however, from the difficulties which the promoters of these schemes have, in 1864, found in inducing capitalists to come forward, that if, between 1849 and 1854, the guarantee system had not been applied to Indian railways, we should not now have been watching the progress of those great trunk lines which are gradually extending over the country, and contributing largely to its civilization and prosperity. With regard to the evils which naturally attend a system involving a Government control over the proceedings of Companies, it is gratifying to notice the conclusions to which Mr. G. N. Taylor, the Commissioner appointed by the Government to inquire into the subject, arrived, after a most careful and patient investigation into the affairs of the different Indian railways. He says,—"Whatever objections may be "urged against it, it is certain that the guarantee system, with the double "government which it involves, has been, on the whole, the best suited to the "peculiar circumstances of India. Though concurring in the wisdom of the "decision that the finances of the country ought to be embarked no further in "these speculations, now that sufficient encouragement has been given to the "introduction of English capital, and grand trunk lines have been provided for "political and public purposes, I see no reason to doubt that the future manage-"ment of the guaranteed undertakings already sanctioned will bear favourable "comparison with any other mode of administration. If the past administration "of several of the guaranteed railways has not been attended with such economical "results as might have been reasonably expected, this is mainly due to the faulty "principles upon which the double administration has been conducted in this "country. The control of the Government Officer, instead of going hand-in-hand "with that of the Company's representative, as it does in England, has been "entirely separate and independent, and conducted through the tardy medium "of correspondence. Thus exercised, it loses that wholesome moral influence "upon the administration as a whole which is essential to secure good results, and "which would seem to be the object of the comprehensive control vested in "Government by Clause 10 of the contract."

Guarantee System.

PERSONS EMPLOYED ON THE RAILWAYS.

21. The following table gives the number of persons employed in the various departments of most of the Railways in October last. The absence of information from India in regard to the Bombay lines has obliged me to make an estimate of the numbers engaged in those undertakings, founding my calculations upon the number employed in the previous year, and upon the additional mileage open:—

ersons employed.

Railway.	Agent's Department.			Locomotive Department.			Traffic Department.			Engineers' Department.			Stores Department.			Telegraph Department.			Grand Total.			No. of Miles open for Traffic.	No. of Stations open.
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.		
East Indian (Bengal Division)	*15	72	87	473	3,741	4,214	244	2,235	2,479	44	2,116	2,160	84	1,001	1,085	38	426	464	898	9,611	10,509	6083	63
Do. (North-West Provinces)	15	204	219	232	1,993	2,225	70	941	1,017	41	3,894	3,935	11	227	238	32	250	282	407	7,509	7,916	4044	27
Eastern Bengal -	7	83	90	44	255	299	41	434	475	29	783	812	1	32	33				113	1,588	1,701	110	21
Calcutta and South-Eastern	5	34	39	12	7	19	4	67	71	3	14	17		11	11	1	10	11	25	143	168	28	9
Madras - - -	20	183	203	391	2,766	3,157	118	1,046	1,164	102	4,452	4,554	15	72	87	19	9	28	665	8,528	9,193	372	57
Great Southern of India -	8	4	12	22	14	36	6	123	129	5	139	323	5	14	19	2	—	2	43	474	522	79	14
‡Great Indian Peninsula -	10	150	160	190	2,050	224	190	2,600	2,790	65	2,215	2,280	50	600	650	2	25	27	489	7,640	8,089	—	—
‡Bombay, Baroda, and Central India - - -	6	12	18	60	340	400	50	170	220	14	2,000	2,014	10	40	50	2	16	18	140	2,578	2,718	—	—
Sind - { ‡Scinde - -	†16	31	47	46	140	186	15	122	137	87	84	121	8	25	34	23	31	54	146	433	579	45	6
Punjaub - -																							
Delhi - -	5	11	16	—	—	—	—	—	—	22	62	84	—	—	—	—	—	—	27	73	100	Nil.	Nil.
‡Indus Flotilla -																							

* The Medical Staff is included in this Department.
† The Transport Agent's Department is included in this Department.
‡ Estimated.

22. The large proportion of Europeans on the railway staffs involves a great expense, but it will, I fear, be necessary, for some time at least, to keep up the number. Such situations as accountants, clerks, and station masters can be filled by Natives, but Europeans are required for high positions of responsibility, and for places where professional knowledge and skill, or (as in the cases of engine-drivers,

nber of sons employed he open ways.

pointsmen, &c.) where nerve and presence of mind are needed. The pay of all classes of Europeans, from the engine-driver to the traffic manager, being treble or quadruple what it is in this country, it is desirable to train up Natives to learn the various duties connected with railways. This is being done, and the attempts have, to a certain extent, been successful. During the past year a good example has been set by a Native in the Madras Presidency, who, having qualified himself, was selected as a 4th Class Engineer on the Madras Railway.

23. The high pay received by the mechanics affords them the opportunity of saving. By the Act of the East Indian Railway, passed last session, the Company has been enabled to furnish them with a ready means of doing so by establishing savings banks at the different stations.* Provision is also made in some places for their health and recreation, in the shape of baths, games, and libraries. Their religious instruction is also attended to, and it is worthy of record that, in reply to an appeal for pecuniary aid from the Venerable Archdeacon Pratt, of Calcutta, certain shareholders of the East Indian Railway Company voluntarily supplied him, out of their dividends, with a fund of upwards of 8,000*l.* to enable him to provide means for administering to the spiritual wants of the servants of the railway. Europeans employed.

24. The following table exhibits the casualties among the European staff of the Companies during the past year:— Medical return.

	East Indian.	Great Indian Peninsula.	Madras.	Bombay, Baroda, and Central India Railway.	Scinde.	Punjab.	Indus Flotilla.	Eastern Bengal.	Calcutta and South-Eastern.	Great Southern.	Total.
Deaths - -	11	5	2	1	—	2	—	—	1	—	22
Retirements from ill health - -	2	4	3	3	—	1	1	2	1	—	17
Nominees rejected by the Examining Physician -	4	16	4	5	2	4	—	1	1	2	39

25. The average number of casualties for the four previous years, *exclusive* of those on the staff of the East Indian, which I was unable to obtain before, but which in this year is nearly one-third of the whole, was 35 per annum. An improvement has, therefore, taken place. The care that is taken to prevent persons physically unfit for active service in India from going out is indicated by the number of rejected candidates. The mortality amongst those who do go out does not average more than one per cent. per annum. Having applied to Dr. W. Brinton, the Consulting Physician to the Companies, for the result of his experience as to the condition of the mechanics who are presented to him for examination, and as to the health of those who may have returned from India after service there, I have received from him the communication which I append to this report.

ACCIDENTS.

26. The following tables, which have been prepared in India, relate to the accidents which occurred on the railways during the year 1863. The total number was 234, of which 194 were on the lines open for traffic, and 40 on the lines under construction. Of the 194 accidents on the open lines, 112 were fatal. This appears a very large number compared with the amount of traffic or with the number of passengers, viz., 10,706,030; but the good or bad management of a line is to be ascertained more from the causes of accidents than their number. Out of the 112 who met with their deaths, it appears that only 18† suffered from causes beyond their control. Of these eight were passengers, and ten were servants of the railway. Three of the eight were killed in consequence of a train on the Great Indian Peninsula Railway being thrown off the line by a stray buffalo, and two lost their lives from a train on the East Indian, getting off the line through the negligence of a guard. The others were purely accidental. With regard to the remaining 96 fatal accidents, 62 were caused either by the misconduct or carelessness of the

* That clause of Act 27 & 28 Vict., cap. clvii., which relates to the establishment of Savings Banks and Provident Institutions for Servants of the East Indian Railways is given in the Appendix.

† The number given in the table is 19, but this includes the case of a lady who got out of the train while it was moving, a cause obviously within her control.

sufferers; 32 were from trespassing and two (misnamed accidents) were suicides. Of the 82 accidents which resulted only in personal injury, 54 were caused by misconduct, incaution, or carelessness, and 24 arose from no fault of the sufferers.

TABLE No. 1.

NUMBER of PERSONS KILLED and INJURED from all causes on Indian Railways open for Traffic during 1863.

	MADRAS.				BOMBAY.						BENGAL, N. W. P., AND PUNJAB.										TOTAL.	
	Madras Railway.		G. S. of I. Railway.		G. I. P. Railway.		Bombay, Baroda, and Central India Railway.		Sinde Railway.		East Indian Railway. Bengal Division.		East Indian Railway. N. W. P. Division.		Eastern Bengal Railway.		Calcutta and South-Eastern Railway.		Punjab Railway.			
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
PASSENGERS.																						
From causes beyond their own control	—	—	—	—	3	15	1	7	—	—	2	—	—	—	—	—	—	—	—	—	6	22
From their own misconduct or incaution	—	—	—	—	—	1	—	1	—	1	3	2	—	—	—	—	—	—	—	—	3	5
Total Passengers	—	—	—	—	3	16	1	8	—	1	5	2	—	—	—	—	—	—	—	—	9	27
PERSONS CONNECTED WITH THE RAILWAY.																						
SERVANTS OF THE COMPANY OR CONTRACTORS.																						
From causes beyond their own control	1	—	—	—	1	—	2	1	2	—	1	—	1	—	2	—	—	—	—	5	10	6
From their own misconduct or incaution	7	2	1	—	5	15	11	6	4	6	22	12	2	2	2	—	3	—	2	—	59	43
Total persons connected with the Railway	8	2	1	—	6	15	13	7	6	6	23	12	3	2	4	—	3	—	2	5	69	49
OTHERS, NEITHER PASSENGERS NOR RAILWAY COMPANY'S SERVANTS.																						
Trespassers	2	1	1	—	11	2	3	—	2	—	11	2	—	—	—	—	1	—	1	—	33	5
Suicide	1	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	2	1
Total persons unconnected with the Railway	3	1	1	—	11	2	3	—	2	—	11	3	—	—	1	—	1	—	1	—	34	6
Grand Total killed or injured	11	3	2	—	20	33	17	15	8	7	39	17	3	2	5	—	4	—	3	5	112	82
Mean length in miles of Railway open during the year	446½		79		495½		185½		105		608		316		110		24		39		2,408	
Number of Passengers carried	1,319,977		313,502		3,266,195		861,244		123,930		2,727,618		549,248		933,053		229,546		375,717		10,705,030	

TABLE No. 2.

STATEMENT of ACCIDENTS upon Railways in India during 1863, showing the Number of Accidents to Trains, &c., and Number of Persons unconnected with the Railways killed and injured thereby.

NATURE OF ACCIDENTS.	No. of Accidents.	Passengers or Persons unconnected with the Railway.		Causes of Accidents.										
				Purely Accidental.	Causes arising from Rolling Stock or Road.				Causes attributable to the Management.					
					Neglect of		Defective condition of		Defective Discipline.					
									Unpunctuality.		Insufficient or inadequately enforced Regulations.	Defective System for securing intervals between Trains.	Negligence of Servants.	Improper interference by Persons not under the control of the Company.	Malicious attempt of Persons not under the control of the Company.
		Killed.	Injured.		Machinery of Train.	Road.	Machinery of Train.	Road.	Accidental.	Defective or inadequately enforced System.					
MADRAS RAILWAY—(446 MILES OPEN).															
Engines or Carriages leaving the Rails	2	—	—	—	—	1	—	—	—	—	—	—	1	—	—
Collisions	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Trains running through Facing Points	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—
1862—3—(393 open). Total	4	—	—	—	—	1	—	1	—	—	—	—	2	—	—
GREAT INDIAN PENINSULA RAILWAY—(495 OPEN).															
Engines or Carriages leaving the Rails	36	3	14	2	—	4	2	9	—	—	—	—	19	—	—
Collisions	16	—	—	—	—	—	—	—	—	—	—	—	16	—	—
Miscellaneous	59	—	—	24	—	14	7	—	—	—	1	—	13	—	—
1862—149—(543 open). Total	111	3	14	26	—	18	9	9	—	—	1	—	48	—	—

TABLE No. 2—*continued.*

STATEMENT of ACCIDENTS upon Railways in India during 1863, showing the Number of Accidents to Trains, &c., and Number of Persons unconnected with the Railways killed and injured thereby.

NATURE OF ACCIDENTS.	No. of Accidents.	Passengers or Persons unconnected with the Railway.		Causes of Accidents.											
					Causes arising from Rolling Stock or Road.				Causes attributable to the Management.						
					Neglect of		Defective condition of		Defective Discipline.						
									Unpunctuality.		Insufficient or inadequately enforced Regulations.	Defective System for securing intervals between Trains.	Negligence of Servants.	Improper interference by Persons not under the control of the Company.	Malicious attempt of Persons not under the control of the Company.
		Killed.	Injured.	Purely Accidental.	Machinery of Train.	Road.	Machinery of Train.	Road.	Accidental.	Defective or inadequately enforced System.					
BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY—(185 MILES OPEN).															
Engines or Carriages leaving the Rails	6	—	7	—	—	2	—	—	—	—	—	—	4	—	—
Collisions	2	—	—	—	—	—	—	—	—	—	—	—	2	—	—
Miscellaneous	17	—	—	12	—	2	3	—	—	—	—	—	—	—	—
1862—20—(144 open). Total	25	—	7	12	—	4	3	—	—	—	—	—	6	—	—
SINDH RAILWAY—(105 OPEN).															
Engines or Carriages leaving the Rails	21	—	—	1	—	4	1	3	—	—	—	—	12	—	—
Collisions	5	—	—	—	—	—	—	—	—	—	—	—	5	—	—
Miscellaneous	14	—	—	4	—	1	1	—	—	—	—	—	8	—	—
1862—67—(105 open). Total	40	—	—	5	—	5	2	3	—	—	—	—	25	—	—
EAST INDIAN RAILWAY, BENGAL DIVISION—(608 OPEN).															
Engines or Carriages leaving the Rails	11	2	—	—	—	—	—	—	—	—	—	—	11	—	—
Collisions	8	—	—	2	—	—	—	—	—	—	—	—	6	—	—
Miscellaneous	5	—	—	1	—	—	—	—	—	—	—	—	4	—	—
1862—9—(368 open). Total	24	2	—	3	—	—	—	—	—	—	—	—	21	—	—
EAST INDIAN RAILWAY, N.W.P. DIVISION—(316 OPEN).															
Engines or Carriages leaving the Rails	7	—	—	1	—	—	1	1	—	—	—	—	4	—	—
Collisions	8	—	—	1	—	—	—	—	—	—	—	—	7	—	—
Trains running through facing points	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Miscellaneous	7	—	—	5	—	—	—	—	—	—	—	—	1	—	1
1862—27—(271 open). Total	23	—	—	8	—	—	1	1	—	—	—	—	12	—	1
EASTERN BENGAL RAILWAY—(110 OPEN).															
Engines or Carriages leaving the Rails	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Collisions	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
1862—0—(19 open). Total	2	—	—	—	—	—	—	—	—	—	—	—	2	—	—
PUNJAB RAILWAY—(39 OPEN).															
Collisions	3	—	—	—	—	—	—	—	—	—	—	—	3	—	—
Miscellaneous	2	—	—	—	—	—	—	—	—	—	—	—	2	—	—
1862—0—(23 open). Total	5	—	—	—	—	—	—	—	—	—	—	—	5	—	—
Grand Total	234	5	21	54	—	28	15	14	—	—	1	—	121	—	1
ABSTRACT OF ALL LINES—(2,408 MILES OPEN).															
Engines or Carriages leaving the Rails	84	5	21	4	—	11	4	13	—	—	—	—	52	—	—
Collisions	44	—	—	3	—	—	—	—	—	—	—	—	41	—	—
Trains running through facing points	2	—	—	1	—	—	—	1	—	—	—	—	—	—	—
Miscellaneous	104	—	—	46	—	17	11	—	—	—	1	—	28	—	1
1862—276—(1,866 OPEN). GRAND TOTAL	234	5	21	54	—	28	15	1	—	—	1	—	121	—	1

TABLE No. 3.

STATEMENT showing the Number of PASSENGERS carried, and those killed or injured from Causes beyond their own control in 1863.

Railways.	Total Number.		Proportion per Million.		Total Number of Passengers carried.
	Killed.	Injured.	Killed.	Injured.	
Madras	—	—	—	—	1,319,977
Great Southern of India	—	—	—	—	313,502
Great Indian Peninsula	3	15	0·92	4·59	3,266,195
Bombay, Baroda, and Central India	1	7	1·16	8·13	861,244
Sindh	—	—	—	—	123,930
East Indian, Bengal Division	5	—	1·80	—	2,727,618
Ditto, N. W. P. Division	—	—	—	—	549,248
Eastern Bengal	—	—	—	—	938,053
Calcutta and South-Eastern	—	—	—	—	229,546
Punjab	—	—	—	—	375,717
Total	9	22	0·84	2·05	10,705,030
Average on Railways in Great Britain in 1860	30	479	0·15	2·4	193,944,156

TABLE No. 4.

Showing the Total Number of ACCIDENTS to Persons of all kinds on the Railways open for Traffic in each Presidency, during the Year 1863.

Presidency.	Length of Railway open.	Total Number of Passengers carried.	Average Number of Passengers per mile open.	Passengers.		Servants.				Trespasses, &c.		Total.		
						Beyond own control.		Within own control.						
				Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed and Injured.
Bengal	1,097	4,820,182	4,394	5	2	4	5	31	14	14	3	54	24	78
Madras	525½	1,633,479	3,108	—	—	1	—	8	2	4	1	13	3	16
Bombay	785½	4,251,369	5,412	4	25	5	1	20	27	16	2	45	55	100
Grand Total	2,408	10,705,030	4,446	9	27	10	6	59	43	34	6	112	82	104

27. The accidents above recorded relate to the year 1863. During that year there were no unusual storms or floods; and, therefore, none of the accidents were caused by these convulsions of nature. But during the following year, as has been already remarked, severe damage was done to some of the lines, and in one or two instances loss of life was occasioned by the effects of the monsoon.

28. The following serious lists of casualties during the year 1864 has been supplied to me by the various Railway Companies:—

Railway.	Death from Accidents on open Lines in 1864.				Remarks.
	Total.	Passengers.	Railway Officers.	Others.	
East Indian - - -	2	Nil.	2	Nil.	One caused by a collision, the other by the bite of a tiger.
Great Indian Peninsula -	40	19	21	Nil.	Cause described, para. 5.
Bombay and Baroda - -	4	1	2	1	The passenger jumped out of the train while on fire.
Scinde - - -	7	Nil.	3	4	Caused by carelessness or recklessness in course of executing duty.
Eastern Bengal - - -	1	Nil.	1	Nil.	
Madras - - - -	9	Nil.	3	6	
Total - -	63	20	32	11	

CAPITAL EXPENDITURE.

29. The total expenditure of capital on the lines which are open and are in course of construction, amounted, on the 1st May instant, to 54,942,029*l.* During the past year, the expenditure has been 3,806,044*l.* Of this, about 2,418,345*l.* was expended in India and 1,387,699*l.* in England.

30. On the 1st May 1864, the Railway Companies had a balance of unexpended capital to the amount of 3,044,103*l.* in the Government Treasury. They have raised during the year 3,716,856*l.*; so that, after deducting the amount expended in this country and in India, there was, on the 1st May instant, a sum of about 2,900,000*l.* available for this year's expenditure, which, it is estimated, will amount to about 5,100,000*l.* The Railway Companies will probably raise, during the next year, a sum of 4,000,000*l.*, which, with the said balance, will cover the estimated expenditure, and leave a sum of 1,800,000*l.* to go on with on the 1st May 1866.

31. The expenditure is expected to be more this year than last, both on account of the greater activity with which the works on the Delhi line will be carried on, and in consequence of the fresh contracts made and to be made by the Great Indian Peninsula Railway Company for continuing their line towards Madras.

32. The following Tables exhibit the financial position of each Company:—

Statement No. 1.

Showing the Amount raised and expended by each Company during the year 1864–65.

Railway.	Sums standing to the Credit of the Companies on the 30th April 1864.	Sums advanced to the Companies on the 30th April 1864.	Amount raised between 1st May 1864 and 30th April 1865.		Amount expended				Total Raised during the Year ended 30th April 1865.	Total Expended during the Year ended 30th April 1865, (partly estimated).
			By Shares or by converting Debentures into Stock.	By Debentures.	In England, between 1st May 1864 and 30th April 1865.	In India. Date to which Accounts have been received.	In India. Amount.	In India. Estimated Expenditure between dates specified and 30th April 1865.		
	£	£	£	£	£		£	£	£	£
East Indian - { Main line - - / Jubbulpore line - }	341,904	—	1,275,654	496,020*	269,237	31st Jan. 1865	504,876	215,000	1,771,674	989,113
Great Indian Peninsula - -	1,139,487	—	221,584	18,000	344,611	„	578,642	150,000	239,584	1,073,253
Madras - - { S.-W. line - - / N.-W. line - - }	— / 1,506,758	866,229 / —	624,402	—	301,319	28th Feb. „	194,875	30,000	624,402	526,194
Scinde - - - - -	74,871	—	97 991	—	30,670	31st Jan. „	26,782	3,000	97,991	60,452
Indus Flotilla - - -	15,544	—	—	—	32,227	„	2,861	2,000	—	37,088
Punjab - - - - -	116,688	—	555	—	97,670	28th Feb. „	179,398	60,000	555	337,068
Delhi - - - - -	1,005,368	—	1,409	—	4,867	„	46,468	20,000	1,409	71,335
Bombay, Baroda, and Central India	—	320,503	307,691	413,350	165,397	31st Jan. „	249,735	75,000	721,041	490,132
Eastern Bengal - - -	—	111,306	—	200,000	80,175	„	4,850	2,000	200,000	87,025
Calcutta and South-Eastern -	—	51,301	—	54,000	2,330	„	9,174	2,000	54,000	13,504
Great Southern - - -	192,822	—	6,200	—	59,196	28th Feb. „	46,684	15,000	6,200	120,880
Total - -	4,393,442	1,349,339	2,535,486	1,181,370	1,387,699	—	1,844,345	574,000	3,716,856	3,806,044
	Net Balance - £3,044,103									

* Fresh Debentures to the amount of 1,187,900*l.* have been issued during the year, but in the same period 691,880*l.* of old Debentures have been converted into Stock, leaving the balance above given.

Statement No. 2.

Estimated Expenditure of Railway Capital for the Year 1865-66 on Capital and Revenue Account.

Railway.	Estimated Expenditure from 1st May 1865 to 30th April 1866.			Sum standing to the Credit or Debit of the Companies on the 1st May 1865 (partly estimated).	Sums to be raised by the Companies.	Total Amount now placed and to be placed in the Home Treasury of Government for 1865-66.	Estimated Balance on the 1st May 1866.
	In England.	In India.	Total.				
	£	£	£	£	£	£	£
East Indian - - - { Main line	150,000	350,000	500,000	1,124,467	375,533	1,500,000	400,000
East Indian - - - { Jubbulpore	100,000	500,000	600,000				
Great Indian Peninsula - - - -	350,000	750,000	1,100,000	297,397	1,202,603	1,500,000	400,000
Madras - - - - { S.-W. line	50,000	100,000	150,000	415,032	784,968	1,200,000	300,000
Madras - - - - { N.-W. „	300,000	450,000	750,000				
Scinde - - - - - - -	45,000	125,000	170,000	34,912	145,088	180,000	10,000
Indus Flotilla - - - - - -	150,000	50,000	200,000	Dr. 21,544	231,544	210,000	10,000
Punjab - - - - - -	55,000	245,000	300,000	Dr. 219,824	569,824	350,000	50,000
„ Delhi - - - - - -	100,000	400,000	500,000	935,113	14,887	950,000	450,000
Bombay, Baroda, and Central India - -	300,000	250,000	550,000	32,069	617,931	650,000	100,000
Eastern Bengal - - - - - -	20,000	30,000	50,000	1,688	58,312	60,000	10,000
Calcutta and South-Eastern - - -	30,000	40,000	70,000	Dr. 10,819	90,819	80,000	10,000
Great Southern of India - - - -	150,000	60,000	210,000	74,443	175,557	250,000	40,000
Total - - - -	1,800,000	3,350,000	5,150,000	Cr. 2,915,121 Dr. 252,187 Net Cr. 2,662,934	4,267,066	6,930,000	1,780,000

Statement No. 3.

Showing the Amount of Capital estimated to be required for each Undertaking, with a single Line, as now sanctioned, the Amount raised, and the Amount expended, to 30th April 1865.

Railway.	Amount estimated to be required for the Undertaking as now sanctioned.	Amount authorized by Government to be raised up to 30th April 1865.				Amount raised in England to 30th April 1865.			Amount raised in India to Date of last Advices.	Total raised to 30th April 1865.	Total Amount advanced for Expenditure to 30th April 1865 (partly estimated).
		Share Capital.	Debentures.		Total.	By Shares.	By Debentures.				
			Convertible into Shares.	Inconvertible.			Convertible.	Inconvertible.			
	£	£	£	£	£	£	£	£	£	£	£
East Indian — Main line*	26,500,000	17,969,681	1,780,319	3,000,000	22,750,000	15,738,037	1,780,319	3,000,000	276,887	20,795,243	21,865,112
East Indian — Jubbulpore	3,500,000	2,000,000	1,200,000	—	3,200,000	1,952,165	1,187,900	—	7,665	3,147,730	953,394
Great Indian Peninsula	16,000,000	11,000,000	—	3,000,000	14,000,000	9,670,325	—	2,320,000	371,298	12,361,623	12,064,226
Madras — S.-W. line and Bangalore branch (85 m.)	5,500,000	3,475,150	1,191,550	333,300	5,000,000	3,471,128	1,191,750	333,000	—	4,995,878	7,207,580
Madras — N.-W. line	4,500,000	3,000,000	—	—	3,000,000	2,643,352	—	—	—	2,643,352	
Sind	2,000,000	1,663,400	186,600	150,000	2,000,000	1,620,015	186,600	150,000	21,695	1,978,310	1,943,398
Indus Flotilla	600,000	545,100	82,900	—	628,000	250,005	82,900	—	—	332,905	354,449
Punjab	3,000,000	1,500,000	—	500,000	2,000,000	1,465,813	—	500,000	8,344	1,974,157	2,193,981
„ Delhi	6,000,000	2,500,000	—	—	2,500,000	1,042,187	—	—	5,302	1,047,489	112,376
Bombay, Baroda, and Central India	6,000,000	4,150,000	1,250,000	100,000	5,500,000	4,078,487	1,205,245	100,000	21,662	5,405,394	5,373,325
Eastern Bengal	1,800,000	1,000,000	—	600,000	1,600,000	990,745	—	600,000	9,255	1,600,000	1,598,312
Calcutta and South-Eastern	600,000	310,000	190,000	—	500,000	290,377	144,000	—	19,623	454,000	464,819
Great Southern	1,500,000	866,800	162,000	137,300	1,165,600	634,679	149,600	100,000	1,221	885,500	811,057
Total	77,500,000	49,979,631	6,043,369	7,820,600	63,843,600	43,847,315	5,928,314	7,103,000	742,952	57,621,581	54,942,029

* Including the chord line to Luckeseral, *viâ* Barrakur.

33. The following table shows the sums that have been annually expended since the commencement of operations, and the mileage completed in each year. As the expenditure applies to the works in progress, as well as to those which are finished, the mileage does not bear any relative proportion to the expenditure; this is particularly exemplified in the years 1859 and 1862:— Capital expenditure.

Year.	Miles opened during the Year.	Expended in England.	Expended in India.	Total.
		£	£	£
Up to 1850 -	—	130,375	44,781	175,156
In 1851 -	—	154,212	197,111	351,323
„ 1852 -	—	174,920	252,640	427,560
„ 1853 -	22¼	252,484	418,165	670,649
„ 1854 -	50¼	960,878	768,710	1,729,588
„ 1855 -	98¾	1,939,101	1,431,904	3,371,005
„ 1856 -	101¾	1,752,813	1,765,094	3,517,907
„ 1857 -	143	1,324,873	2,092,395	3,417,268
„ 1858 -	145	1,940,052	3,551,073	5,491,125
„ 1859 -	74½	2,507,949	4,654,923	7,162,872
„ 1860 -	208	2,396,924	5,192,846	7,589,770
„ 1861 -	759	1,596,010	4,962,604	6,558,614
„ 1862 -	747	1,854,289	3,956,563	5,810,852
„ 1863 -	233½	1,411,661	3,360,114	4,771,775
„ 1864 -	402¼	1,387,699	2,418,345	3,806,044

34. It will be observed that a sum of about 2,500,000*l.* has been expended in India during the past year. The capital being paid by the Companies into the Government Treasury *here*, this sum was advanced by the Government *there* in rupees. The rupee, under the contract (as explained in a former report) is charged to the Companies at the rate of 1*s.* 10*d.* The ruling rate of exchange during the year having been about 2*s.*, the Government, as has been usual lately, advanced 2*d.* in every rupee more than they received, or about 220,000*l.* in the aggregate. On the other hand, the Government received from the earnings of the Railway Companies a sum of about Rs. 1,09,00,000, which was likewise converted into pounds sterling at the same rate of 1*s.* 10*d.* before it was credited to the Railway Companies in this country for the payment of the guaranteed interest. The Government thus profited to the extent of the difference between 1,000,000*l.* and 1,090,000*l.* As far, therefore, as this year's operations are concerned, the loss and gain by Government have been respectively 220,000*l.* and 90,000*l.* Each year this loss will diminish, and, when the revenue receipts become larger than the capital expenditure in India, which will soon be the case, the balance of gain, which has hitherto always been on the side of the Railway Companies, will be on the side of Government. Loss and gain by the exchange operations.

35. The following statement shows the manner in which the expenditure on the various undertakings has been divided:— Division of Expenditure.

Railway.	Works and Bridges, &c.	Permanent Way and Stations.	Freight and Insurance, &c.	Rolling Stock.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian* - - -	7,500,000	5,370,000	2,300,000	2,550,000	2,850,000	1,950,000
Great Indian Peninsula - -	4,931,785	2,545,864	2,057,077 including Miscellaneous Stores.	1,053,750	724,200	—
Madras - - - - -	2,278,032	2,195,142	—	471,858	522,598	243,893
Bombay, Baroda, and Central India	1,791,032	996,639	423,808	462,151	359,336	512,844
Scinde - - - -	700,000	346,926	146,699	168,382	109,330	373,400
Punjab - - - -	100,011	635,623	402,372	202,004	137,705	233,484
		Steamers and Barges.				
Indus Flotilla - - -	14,016	258,355	10,512	—	23,839	51,589
Eastern Bengal - - -	491,919	534,975	135,765	119,258	159,102	71,435

* Given approximately.

TRAFFIC.

Traffic Revenue.

36. During the year 1864 the revenues of the chief Indian Railways have made a considerable advance, and the general results of the traffic may be regarded as satisfactory. But on the smaller lines, such as the Scinde, the Great Southern, and the Calcutta and South-Eastern, there has been a falling off in the traffic receipts. This has been produced by various local causes, and chiefly by such as will be removed. A speedy improvement may, therefore, be looked for.

In 1862–63 the revenue derived from 2,151 miles of railway was 690,834*l.*
In 1863–64 „ „ 2,489 „ „ 915,077*l.*

Railway.	Year ending 30th June 1863.		Year ending 30th June 1864.	
	Mean Mileage open.	Net Receipts.	Mean Mileage open.	Net Receipts.
		£		£
East Indian	797	382,009	978	507,084
Great Indian Peninsula	484	143,048	550	153,203
Madras	407	48,493	478	119,000
Bombay, Baroda, and Central India	166	62,331	185½	About 70,000
Scinde	114	18,994	114	6,657
Punjaub	43	4,342	43	5,220
Eastern Bengal	112	Half-year 17,421	112	43,413
Great Southern	28½	14,196	28½	10,500
	2,151½	690,834	2,489	915,077

Charges for Maintenance and Working.

37. The following statement exhibits the relative proportions of the various charges for maintenance and working during the last two years:—

Railway.	Maintenance.		Locomotive.		Repairs to Rolling Stock.		Traffic.		Compensation.		Miscellaneous.		
	1863.	1864.	1863.	1864.	1863.	1864.	1863.	1864.	1863.	1864.	1863.	1864.	
East Indian	25·36	24·49	36·60	36·05	8·77	7·69	13·11	16·03	·08	·02	16·07	15·72	100
Great Indian Peninsula	18·96	18·61	26·76	31·22	9·46	9·30	21·50	19·55	16·57	15·25	6·75	6·70	100
Madras { South-Western	48·64	52·48	33·70	43·37	1·32	1·99	12·20	15·44	·59	—	3·55	6·22	—
Madras { North-Western	20·16	28·69	58·33	44·34	1·89	2·35	16·85	16·16	—	·20	2·77	8·46	—
Scinde	35·49	35·91	28·39	29·41	11·10	10·06	15·29	14·59	·01	0·85	9·72	9·18	—
Punjab	15·08	13·19	27·14	33·36	8·99	included in	22·31	25·51	—	—	26·48	27·94	—
Bombay, Baroda, and Central India	25·19	*	39·01	*	3·36	*	17·84	*	·81	*	14·29	—	—
Eastern Bengal	11·18	19·38	39·65	40·7	6·86	—	17·59	23·86	—	—	24·74	16·74	—
Calcutta and South-Eastern { out of capital		22·43	—	52·67	—	47·84	34·29	43·09	—	—	13·04	18·29	—
Great Southern	6·52	23·82	—	65·	—	55·02	14·10	12·59	—	—	14·38	8·56	—
Average of Lines in the United Kingdom	18·99	18·95	27·79	27·62	8·71	9·33	27·95	27·92	1·59	1·65	14·97	14·55	—

* Accounts not yet received from India.

GUARANTEED INTEREST.

Guaranteed Interest.

38. The following statement shows the amount that has been advanced to the several Railway Companies by the Government for guaranteed interest during the past and previous years:—

Railway.	Interest paid up to 31st December 1863.	Interest paid during 1864.			Total Amount paid up to end of 1864.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian	5,200,109 1 2	1,045,496 17 7	11,952 2 0	1,057,448 19 7	6,257,553 0 9
Great Indian Peninsula	2,295,770 10 0	538,079 13 7	18,411 12 0	556,491 5 7	2,852,261 15 7
Madras	1,480,197 6 1	345,284 18 9	—	345,284 18 9	1,825,482 4 10
Scinde	338,336 7 9	91,421 9 9	1,041 1 7	92,462 11 4	430,798 19 1
Punjab	229,448 5 5	93,617 5 2	416 11 1	94,033 16 3	323,482 1 8
Delhi	37,986 2 11	52,097 8 2	177 6 1	52,274 14 3	90,260 17 2
Indus Steam Flotilla	68,080 6 9	16,644 8 5	—	16,644 8 5	84,724 15 2
Bombay, Baroda, and Central India	588,238 15 11	222,678 17 2	1,083 2 4	223,761 19 6	812,000 15 5
Eastern Bengal	207,774 7 1	69,662 0 0	338 0 0	70,000 0 0	277,774 7 1
Calcutta and South-Eastern	55,806 19 5	18,869 13 8	942 0 3	19,811 13 11	75,618 13 4
Great Southern	91,047 0 7	39,529 7 0	—	39,529 7 0	130,576 7 7
Total	£10,592,795 3 1	2,533,381 19 3	34,361 15 4	2,567,743 14 7	13,160,538 17 8

Accountant General's Department,
28th April 1865.

(Signed) W. G. GOODLIFFE,
Assistant Accountant General.

39. Of the 13,160,500*l.* paid by the Government during the last 14 years to the various Companies in the shape of guaranteed interest, about 3,300,000*l.* has been paid back out of the earnings of the railways. A sum of nearly 10 millions is, therefore, still due from the Companies to the Government. The annual charge upon the Government has increased from 2,323,605*l.* in 1864 to 2,567,743*l.* in 1865. By the 1st January next year it will probably have increased to 2,700,000*l.* But the receipts from the traffic, which go in diminution of the above, and which in the year 1863–64 amounted to about 1,000,000*l.*, will in 1864–65 probably reach 1,300,000*l.* Year by year, as additional lines are open and traffic is developed, the revenues from the railways will approach nearer and nearer to the amount of the guaranteed interest, and at last the Government will not only be relieved of the annual payment altogether but the railways will begin to earn more than the guaranteed rate and to discharge their debt for previous advances out of half the excess profits over 5 per cent.

To June, 1864.	£
East Indian	1,653,000
Great Indian Peninsula	612,000
Madras	260,000
Bombay, Baroda, and Central India	124,000
Scinde	75,000
Great Southern	35,000
Eastern Bengal	61,000
	2,820,000
Estimated addition from June to Dec. 1864	500,000
	£3,320,000

40. Although it will be some time before the Government will receive back the large sum due to them, there is enough in the present condition of the lines to encourage the hope that ultimately it *will* be paid. In the mean time, the State obtains, both directly and indirectly, a return which fully compensates for the liability which it has incurred. In the form of direct gains may be reckoned the free conveyance of mails, a great reduction in the expense of moving troops and public stores, and an increased revenue from salt; while the indirect advantages are incalculable, whether we regard as such the greater security to the country which railways afford, the impulse they give to commerce and agriculture, or the extent to which they promote natural prosperity and individual comfort.

RATES AND FARES.

Fares.

41. The following table will show the existing rates of charge for passengers and goods:—

Railway.	Passengers, per Mile.				* Goods, per Ton per Mile.				
	1st Class.	2d Class.	3d Class.	4th Class.	1st Class.	2d Class.	3d Class.	4th Class.	5th Class.
	d.	d.	d.	d.	d.	d.	d.	d.	d.
East Indian	1½	¾	½	⅜	1¼	1½	2	3½	7
Great Indian Peninsula	1⅝	1	⅝	—	—	—	—	—	—
Madras	1½	⅝	⅜	—	1 & 1¼	2	2¼	3¼	3
Bombay and Baroda	1⅝	1	½	—	1	1¼	2	2½	3¾
Scinde	1¼	¾	⅜	—	1¼	1⅜	3¼	—	—
Punjab	1½	1	⅜	—	1	1½	2½	3½	—
Eastern Bengal	1½	¾	½	⅜	1¼	1½	2	3½	7
Calcutta and South-Eastern	1½	¾	½	⅜	—	—	—	—	—
Great Southern	1½	1	⅜	—	—	—	—	—	—

Government control over Fares.

42. It has been alleged that the Government, in exercising the control which under the contracts they possess over the regulation of the fares, may think fit to require the adoption of such a scale of charges as will bring the railway within the compass of as many people as possible, without considering the effects of too low a scale upon the receipts or profits. It is hardly necessary to observe that no such idea has been entertained. It would, in the first place, be contrary to the just principles of modern legislation, to confer advantages on one class of the community at the expense of the whole. The people of India are now taxed to pay the guaranteed interest. For their protection Government properly exercises a control over the Railway Companies, with the two-fold object of securing such a system of good management as shall provide all the legitimate advantages of railway communication for the country at large, as well as such profits as shall release the Government from the payment of the guaranteed interest. In the second place, the best means of encouraging capital and enterprise in India is to afford an example of success in the works which have been undertaken. When the main lines, which have cost so large a sum, earn dividends of 5, 6, 8, and 10 per cent., the difficulty which now exists in inducing capitalists to promote public works in India will be removed. It must not be thought, however, that high fares and high profits are synonymous; on the contrary, my belief is that low fares, that is to say low compared with those in Europe, are perfectly compatible with large and remunerative receipts.

43. I now proceed to give a brief account of the condition of each undertaking; and for a general view of the progress of the traffic on the principal lines I would refer to the interesting diagrams of Colonel Baker, appended, with his permission, to this report.

EAST INDIAN RAILWAY.

East Indian.

44. With the exception of the bridges over the Jumna at Allahabad and Delhi, an uninterrupted traffic between Calcutta and Delhi has been carried on during the year on this railway. The bridge at Allahabad was expected to be opened by March last, but this expectation has not been realized, and three or four months will probably still elapse before it is finished. It is a work of great magnitude, comprising 15 spans of 200 feet each, the superstructure of which is made of iron girders sent out from this country. The works on the Jubbulpore line have progressed in a satisfactory manner, and it is expected that the time at which this work should, under the contract with Messrs. Waring Brothers and Hunt, be completed, viz., 31st March 1867, will not be much exceeded.

45. The traffic on the main line has, during the past year, improved in every way. The gross earnings, both from passengers and goods, have increased, and the expenses have diminished. The effects of the audit system, which was established last year, are apparent in the accuracy of the accounts and the punctuality with which they are rendered.

46. In five years the open length of this line has increased from 166 miles to 1,140 miles; the receipts have risen from 96,651*l.* to 626,132*l.* per annum, and the number of passengers conveyed, from 1,272,000 to 3,658,000.

47. Making allowance for the extraordinary magnitude and the novelty of the undertaking, the short time it has been open, and the imperfect materials at hand for working it, the results are, upon the whole, very favourable. Room for improvement no doubt exists, and the Board is introducing such reforms as are necessary. With the view of improving the management in India, it has recently proposed to alter the constitution of the Agency. Instead of placing the whole administration of its affairs in the hands of one individual, the Board think of associating with their present Agent two other officers, who would relieve him of his arduous personal labours by taking special duties and responsibilities upon themselves. In a committee formed by these three and the Consulting Engineer to Government matters relating to the general affairs of the Company in India would be settled, the Chief Agent having, under certain circumstances, the privilege of veto over the decision of his coadjutors, and the Consulting Engineer retaining the power of control vested in the Government.

Statement No. I.

Comparative Statement, showing the Amount of Receipts from Passengers and Goods, the Working Expenses, and the Net Profits, during the Years ending 30th June 1861, 1862, 1863, and 1864.

Bengal Division.

Period.	Mean Number of Miles open.	Receipts from Conveyance of			Total Receipts.	Working Expenses.			Net Profits.
		Passengers.	Merchandise and Minerals.	Miscellaneous.		Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£	£
Half-year ending 31st December 1863	608¾	132,900	192,222	20,631	345,753	161,811	54,986	216,797	128,956
Ditto, 30th June 1864	674	176,936	289,330	22,223	488,489	178,614	65,884	244,498	243,991
Year ending 30th June 1864	642	309,836	481,552	42,854	834,242	340,425	130,870	461,295	372,947
Year ending 30th June 1863	501	231,388	343,552	17,543	592,483	222,481	85,576	307,057	285,426
Year ending 30th June 1862	311	148,107	230,302	15,037	393,446	129,069	69,595	198,664	194,782
Ditto, 1861	217	116,371	85,504 / 81,192	13,436	297,533	112,525	30,869	143,394	153,139

North-West Provinces Division.

Period.	Number of Miles open.	Receipts from Conveyance of			Total Receipts.	Working Expenses.			Net Profits.
		Passengers.	Merchandise.	Miscellaneous.		Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£	£
Half-year ending 31st December 1863	328¼	45,378	72,496	10,064	127,938	64,488	13,200	77,688	50,250
Ditto, 30th June 1864	346	62,533	86,481	8,288	157,302	65,071	14,701	79,772	77,530
Year ending 30th June 1864	337	107,911	158,977	18,352	285,240	129,559	27,901	157,460	127,780
Year ending 30th June 1863	296	82,081	122,224	3,764	208,069	93,303	18,193	111,486	96,583
Year ending 30th June 1862	245¼	62,268	92,857	4,634	159,759	44,092	29,453	73,545	86,214
Ditto, 1861	123	38,623	68,479	3,839	110,941	—	—	49,501	61,441

Statement No. II.

Bengal Division.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1861	48·35	39·3	60·7
" " 1862	50·49	39·63	60·37
" " 1863	51·80	38·8	61·2
" " 1864	55·2	37·1	54·7

North-West Provinces Division.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1861	44·61	34·8	65·2
" " 1862	46·03	36·13	63·87
" " 1863	53·60	39·4	60·6
" " 1864	55·2	37·8	55·7

Statement No. III.

Bengal Division.

Period.	Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Year ending 30th June 1861	217	19,403	69,583	1,561,461	1,650,447
" " 1862	311	22,420	76,421	1,838,259	1,937,100
" " 1863	501	27,786	86,638	2,310,757	2,425,181
" " 1864	674	27,057	71,689	2,928,578	3,027,324

North-West Provinces Division.

Period.	Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Year ending 30th June 1861	123	2,856	4,872	219,078	226,806
" " 1862	245	3,874	7,079	331,982	342,935
" " 1863	292	4,649	9,427	463,088	477,164
" " 1864	346	5,752	11,957	612,834	630,543

THE GREAT INDIAN PENINSULA RAILWAY.

48. The progress made in the works under construction on this Company's system has not been so great as was expected. Instead of the estimated length of 122 miles, 42 only have been opened since the 1st January 1864. The execution of the works under contract, has been delayed by various causes. On the North-Eastern line, in the Taptee District, a stoppage was for some time occasioned by the ravages of the cholera. On the same line, in the section between Shohagpore and Jubbulpore, the contractors have not made the progress they should have done, and on the branch to Nagpore unforeseen delays have occurred. A fresh contract has lately been entered into for the execution of 70 additional miles on the South-Eastern line beyond Sholapore. A proposal of the Government to extend the Nagpore line to the great military town of Kamptee, a distance of 12 miles, was rejected by the Board of Directors, who, although a guarantee of 5 per cent. was offered, objected to make it as an integrant part of their present undertaking.

49. While the traffic has increased during the past year, the results have not been so satisfactory as might have been expected, in consequence of the enormous expenses incurred in working and maintaining the line, nearly three-quarters of the gross receipts being absorbed on this account. The receipts were 638,183*l.* in 1864, as compared with 442,213*l.* in the previous year, but the expenditure was 459,962*l.* in 1864, against 298,732*l.* in 1863. The completion of the communication from the Port of Bombay to the Deccan, by the opening of the Ghât Inclines, will, no doubt, do much to improve the revenue, both by augmenting the receipts and by reducing the cost of working the traffic, but a skilful and energetic management and a careful supervision is likewise requisite to realize the profits that may fairly be looked for.

50. A calamitous accident occurred on this railway on the 27th June last, by the washing away of the embankments of a culvert, whereby 15 lives were lost. All the carriages were smashed, and the engine was injured. This accident occurred before daylight, at 4.40 A.M. The last train had gone over the line five hours before. The line near the scene of the accident is level and straight for more than a mile. Two-thirds of the width of the embankment was washed away,

leaving the culvert uninjured. The next day a viaduct, of 12 spans of 30 feet iron girders, was destroyed by a flood, nine spans having been carried away. Some of the works under construction also suffered severely from the floods, which, at the Nerbudda viaduct, rose 70 feet in 24 hours, and damaged some of the piers which were ready for the girders.

51. This Company has lately taken the administration of its affairs in India out of the hands of the Committee of Directors, which had hitherto acted as the agent of the Company, and has appointed Captain Sherard Osborn, R.N., C.B., to that office. The well known energy and ability of this officer will, it is expected, be applied to the benefit of all interests concerned in this great undertaking.

Statement No. I.

Statement showing the Amount of Receipts from Passengers and Goods, and of Working Expenses, during the Years ending 30th June 1861, 1862, 1863, and 1864.

Period.	Mean Number of Miles open.	Receipts.			Working Expenses.			Net Profits.
		Passengers.	Goods.	Total.	Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£
Half-year ending 31st December 1863 - -	—	88,226	119,644	207,870	119,865	27,694	147,559	60,311
Half-year ending 30th June 1864 - - - -	—	87,790	237,217	325,007	187,488	43,013	230,501	94,506
Year ending 30th June 1864	—	176,016	356,861	532,877	307,353	70,707	378,060	154,817
" " 1863	484	148,689	238,938	387,627	—	—	244,579	143,048
" " 1862	437¾	123,143	156,115	279,258	128,470	64,220	192,690	86,568
" " 1861	320	105,607	123,182	228,789	135,042	23,369	158,911	69,778

Statement No. II

Statement showing the Proportion of Working Expenses to Gross Receipts, and the Proportion of Receipts from Passengers and Goods.

Period.	Proportion per cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1861	69·5	46·2	53·8
" " 1862	68·7	44·1	55·9
" " 1863	62·9	38·36	61·64
" " 1864	70·9	30·03	67·7

Statement No. III.

Statement showing the Number of Passengers conveyed during the Years ending 30th June, 1861, 1862, 1863, and 1864.

Period.	Number of Miles open.	Number of Passengers.				Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	4th Class.	
Year ending 30th June 1861	320	20,121	183,522	855,126	955,172	2,013,941
" " 1862	416	22,448	147,883	1,996,673	342,958½*	2,509,962
" " 1863	484	26,201	157,434	2,754,416	—	2,938,051
" " 1864	553	36,421	247,610	3,126,243	—	3,510,274

* This Class was discontinued in October 1861.

THE MADRAS RAILWAY.

52. The progress on the works of this railway which are in course of construction has been satisfactory. The opening in August of the important branch to Bangalore, and in October of the section between Tiruputty and Reddypully, on the North-West line, brings the length of line which is now being worked by the Madras Company up to 491 miles. It is expected that a further addition of 41 miles, which will extend the North-West line to Cuddapah, will take place immediately.

53. A steady improvement has continued in the traffic. The gradual and general increase that has taken place is very gratifying, as its development is shown to be due not to exceptional or spasmodic causes; and the increase in the goods traffic has occurred chiefly in articles of consumption, such as salt, rice, coffee, and grain. Another encouraging feature is the diminution in the working expenses from 73 to 58 per cent. of the gross receipts.

54. The following returns furnish the particulars of the traffic, and show that the net receipts from the same length of line increased from 46,308*l.* for the half year ending the 31st December 1863 to 72,691*l.* for the next half year. For the half year ending the 31st December last they had further increased to 83,688*l.*

Statement No. I.

Showing the Amount of Receipts from Passengers, Goods, &c., and of Working Expenses, during the Years ending 30th June 1861, 1862, 1863, and 1864.

Period.	Mean No. of Miles open.	Receipts.			Working Expenses.			Net Receipts.
		Passengers.	Goods, &c.	Total.	Working.	Maintenance.	Total.	
South-west Line:		£	£	£	£	£	£	£
Half-year ending 31st Dec. 1863	478	52,857	68,201	121,088	40,069	37,948	78,017	43,071
„ „ 30th June 1864	„	53,640	82,126	135,766	45,534	21,236	66,770	68,996
	Mean.							
Year ending 30th June 1864	478	106,527	150,327	256,854	85,603	59,184	144,787	112,067
„ „ 1863	407	91,381	93,686	185,067	76,575	59,999	136,574	48,493
„ „ 1862	282	60,924	62,851	123,775	57,104	34,491	91,595	32,180
„ „ 1861	221	45,755	37,923	83,678	43,190	19,742	63,932	19,746
North-west Line:								
Year ending 30th June 1863	37	4,912	4,141	9,053	2,980	854	5,922	4,131
„ „ 1864	60	6,977	6,865	13,782	5,293	1,558	6,851	6,931

Statement No. II.

Showing the Proportion of Working Expenses to Gross Receipts, and the Proportion of Receipts from Passengers and Goods.

Period.	Proportion per Cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
South-west Line:			
Year ending 30th June 1861	78·0	54·6	45·4
„ „ 1862	74·7	49·2	50·8
„ „ 1863	73·6	49·3	50·7
„ „ 1864	58·3	41·4	58·5

STATEMENT No. III.

Showing the Number of Passengers conveyed during the Years ending 30th June 1861, 1862, 1863, and 1864.

Period.	Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
South-west Line:	Mean.				
Year ending 30th June 1861	221	2,774	10,428	969,287	982,489
" " 1862	282	8,626	47,695	1,025,218	1,081,539
" " 1863	407	9,788	71,966	974,558	1,056,312
" " 1864	407	8,648	80,294	1,093,674	1,182,616
North-west Line:	Average.				
Year ending 30th June 1863	37	530	3,050	132,801	136,381
" " 1864	41	352	2,986	172,998	177,336

BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY.

55. This railway is now opened for traffic to Bombay, the line between Bulsar and Grant Road (Bombay) 121 miles in length, having been completed in November last. At present, however, only passenger traffic is carried on this portion. The continuation of the line from Grant Road to Colaba on the opposite side of the city, where it reaches the harbour, is to be conducted over land now in course of being reclaimed from Back Bay. The time for completing these few terminal miles depends upon the operations of the Company which has undertaken the work of reclamation. Under the arrangements made with this Company, the land was to have been ready for the railway by the middle of next year, but I fear that from the progress hitherto made the hope that this will be the case cannot be held out.

56. The effects of the severe floods on the Nerbudda bridge in July 1864 have already been referred to. Several months have been occupied in repairing the damage done on that occasion, and the traffic has accordingly been very much interrupted. As with the first East India Company nearly two centuries ago, so now with this Company, the seat of their agency has been removed from Surat to Bombay.

57. The following traffic returns relate to periods before the accidents above described occurred, and before the line to Bombay was opened. They are to a certain extent satisfactory and are encouraging, but skilful management is requisite to ensure the proper development of the traffic and to obtain all the advantages which the line is calculated to produce. Mr. Lane, who has lately retired from the office of agent to the Company, has been succeeded by Mr. Currey, late of the Great Northern Railway. The experience which this gentleman has acquired on that line will be of great use to him in the administration of the affairs of the Bombay and Baroda Railway, and great hopes are entertained that, under his management, and when the whole line is fairly at work, the results of the traffic will be very satisfactory.

STATEMENT No. I.

Showing the Amount of Receipts from Passengers and Goods, and the Expenses of Working, for the Years ending 30th June 1862, 1863, and 1864.

Period.	Number of Miles.	Receipts.			Expenses.			Net Receipts.
		Passengers.	Goods, &c.	Total.	Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£
Half-year ending December 1863	185¼	37,239	25,293	62,532	19,740	8,818	28,558	33,974
Half-year ending June 1864	185¼	45,683	33,564	79,247	*	*	*	*
Year ending June 1864	185¼	82,922	58,857	141,779				
" " 1863	166½	63,097	39,821	102,928	32,361	8,236	40,597	62,331
" " 1862	130	34,342	12,591	46,933	22,327	3,828	26,155	20,778

* No Revenue Account having yet been received from India for these half-years, the expenses cannot be given. The receipts are taken from the Weekly Traffic Returns.

STATEMENT No. II.

Showing the Proportion of Working Expenses to Gross Receipts, and the Proportion received from Passengers and Goods.

Period.	Proportion per cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1862 -	50·14	66·40	33·60
„ „ 1863 -	41·18	59·60	40·40

STATEMENT No. III.

Showing Number of Passengers conveyed during the Years ending 30th June 1862, 1863, and 1864.

Period.	Average Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Year ending 30th June 1862 -	130	2,063	10,980	838,285	851,328
„ „ 1863 -	168½	2,713	11,785	803,572	818,070
„ „ 1864 -	185¼	4,149	15,844	931,186	951,179

STATEMENT No. IV.

Showing the Number of Passengers per Mile open and the Number per Mile in each Class.

Period.	Number of Passengers conveyed per Mile.	Number conveyed per Mile.		
		1st Class.	2d Class.	3d Class.
Year ending 30th June 1862 -	6,547	16	84	6,447
„ „ 1863 -	4,912	16	70	4,816
„ „ 1864 -	5,134	22	86	5,026

THE SCINDE RAILWAY.

58. The traffic on this railway has been conducted with regularity and safety throughout the year. There has been a small but steady increase in the receipts from passengers, but, owing, it is said, to the uncertain state of mercantile affairs in India, which checked business in Scinde and the Punjab, the goods traffic has diminished during the second half of last year. The survey of the country along the valley of the Indus has been proceeded with, but nothing has yet been determined in regard to the route best adapted for a railway.

STATEMENT No. I.

Showing the Amount of Receipts and Working Expenses for the Years ending 30th June 1862, 1863, and 1864.

Period.	Number of Miles open.	Receipts from Conveyance of		Total Receipts.	Working Expenses.	Net Receipts.
		Passengers.	Merchandise, &c.		Working and Maintenance.	
		£	£	£	£	£
Year ending 30th June 1862 -	114	10,045	30,028	40,073	34,631	5,442
„ „ 1863 -	114	13,196	76,717	89,913	70,919	18,994
„ „ 1864 -	114	84,558	84,253	98,811	92,154	6,657

Statement No. II.

Showing the Proportion of Working Expenses to the Gross Receipts, and the Proportion of Receipts from Passengers and Goods.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1862 -	86·41	25·06	74·96
„ „ 1863 -	78·86	14·67	85·33
„ „ 1864 -	93·26	14·73	85·26

Statement No. III.

Showing the Number of Passengers conveyed, &c.

Period.	Number of Miles open.	1st Class.	2d Class.	3d Class.	Total Number of Passengers conveyed.
Year ending 30th June 1862 -	114	491	5,140	84,494	90,125
„ „ 1863 -	114	457	7,143	117,489	125,089
„ „ 1864 -	114	—	—	—	—

THE PUNJAB RAILWAY.

59. The whole of this line, 253 miles in length, is finished. The Right Honourable Sir John L. Lawrence, Bart., G.C.B., as Lieutenant Governor of the Punjab, cut the first sod in 1859, and in October last, as Governor General, he formally opened a large section towards Mooltan. Although then in a condition to run engines from end to end, it was not ready for traffic, but on the 24th April last the Government sanctioned the opening of the line to the public. Before leaving the Punjab, the late Lieutenant Governor, Sir Robert Montgomery, expressed, in complimentary terms, his great satisfaction at the manner in which the work had been performed by the Company, and his appreciation of the services rendered by the railway officers, especially by the late lamented agent of the Company, Mr. Stevens, who died at Kurrachee, on his way home, in January last. The traffic on the open line between Lahore and Umritsur has increased, but the progress has been slow.

60. The following table furnishes particulars in regard to the traffic for the years ending 30th June 1863 and 1864:—

Period.	Length open.	Receipts.		Total.	Expenses.	Net Receipts.	Number of Passengers.			
		Passengers.	Miscellaneous.				1st Class.	2d Class.	3d Class and Military.	Total.
		£	£	£	£	£				
Year ending 30th June 1863 - - -	43	12,193	522	12,715	8,343	4,372	2,286	4,007	350,533	356,826
Year ending 30th June 1864 - - -	43	16,484	682	17,166	12,403	4,763	4,573	10,775	410,571	425,919

STATEMENT No. II.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per Cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1863 -	65·61	95·89	4·10
„ „ 1864 -	72·25	96·02	3·97

INDUS STEAM FLOTILLA.

61. The vessels of the flotilla have performed regular bi-monthly voyages between Kotree and Moultan, the communication with Sukkur being kept up by the smaller, and with Moultan by the larger steamers of the flotilla. One boat, purchased from the Government, has been added during the year, and another, with two barges, built in this country for towing vessels through the rapids of the Sukkur Pass, are on their way to the Indus. Two more steamers, with their barges, have lately been sanctioned, and it is hoped that four out of the six contracted for by Messrs. Richardson and Duck, which have hitherto remained useless at Kurrachee, will be made available for service during the present year. These additions have been necessary to provide for the increased traffic expected upon the opening of the Punjab Railway. The earnings have been much larger than in former years, the last year's receipts up to December having been nearly 100,000*l.*, compared with 64,600*l.* of 1863. The following relates to the year ending 30th June 1864 :—

Indus Steam Flotilla.	Receipts.		Total.	Expenses.	Net Receipts.
	Passengers.	Goods.			
	£	£	£	£	£
Year ending 30th June 1864 -	7,577	79,626	87,203	52,550	34,653

THE DELHI RAILWAY.

62. Fair progress has been made on the works on this railway. A contract has been entered into with Messrs. Brassey, Wythes, and Henfrey, for the construction of the whole line, from Umritsir to its junction with the East Indian Railway at Ghazeeabad, for about 15,000*l.* a mile. The contractors are to supply the permanent way, rolling stock, fencing, and all necessary conveniences, to complete the whole within five years, and to maintain it for one year after it has been opened for traffic. Several large bridges occur in the course of the line. They are to be constructed with iron girders. In the execution of the works the contractors will have the advantage, which other lines in the interior have not hitherto possessed, of a direct railway communication from Calcutta on the east, and of railway and steamboat communication from Kurrachee on the west, to facilitate the conveyance of their materials.

EASTERN BENGAL RAILWAY.

63. The traffic on this line has been conducted during the year with regularity and safety, and the general results have been satisfactory. The gross receipts during the half-years ending December 1863, and those ending June and December 1864, have been 42,603*l.*, 45,945*l.*, and 46,733*l.*, and the net profits 20,470*l.*, 20,550*l.*, and 21,652*l.* It should, at the same time, be borne in mind that for the last year

the entire maintenance, which was previously a charge against capital, has been borne by revenue. Since the beginning of this year arrangements have been made with a Steamboat Company for receiving on the Railway at Kooshtee the cargoes of the steamers, and a still greater improvement in the traffic has been the consequence.

64. A proposal has been made to extend the line from its present terminus to a place called Goalundo, at the confluence of the Ganges and Barampooter. The matter is now under consideration. The object is to intercept the traffic from the countries on the north-east. The length would be about 45 miles, and the cost upwards of 500,000*l.*

65. The damage done to the property of this Company by the cyclone amounted to about 12,600*l.*

STATEMENT No. I.

Showing the Amount of Receipts from Passengers, Goods, &c., and of Expenses during the Years ending 30th June 1863 and 1864. The whole (110 miles) open.

Period.	Receipts from				Expenses.			Net Receipts.
	Passengers.	Goods.	Miscellaneous.	Total.	Working.	Maintenance.	Total.	
	£	£	£	£	£	£	£	£
Half-year ending 30th June 1863 - -	24,041	8,802	905	33,748	17,885	—	17,885	15,863
Ditto, 31st Dec. 1863 -	26,887	13,758	1,958	42,603	19,819	2,309	22,128	20,475
Ditto, 30th June 1864 -	35,464	10,404	77	45,945	20,355	5,040	25,395	20,550
Total for year ending June 1864 - -	62,351	24,162	2,035	88,548	40,274	7,349	47,623	41,025

STATEMENT No. II.

Showing Proportion of Expenses to Receipts, and of Receipts from Passengers and Goods.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per Cent. of Receipts from		
		Passengers.	Goods.	Miscellaneous.
Year ending 30th June 1863 -	48·38	71·24	26·08	2·68
„ „ 1864 -	53·80	70·41	27·28	2·2

STATEMENT No. III.

Showing the Number of Passengers conveyed.

Period.	Miles open.	Number of Passengers conveyed.				
		1st Class.	2d Class.	3d Class.	4th Class.	Total.
Year ending 30th June 1863	110	20,761	20,786	499,758	—	541,305
„ „ 1864	110	40,461	51,653½	987,481	44,615	1,124,570½

CALCUTTA AND SOUTH-EASTERN RAILWAY.

66. Hitherto labouring under great disadvantages, and exposed to unforeseen difficulties, this undertaking has now reached a period in its existence when the expectations of those who promoted and sanctioned it appear likely to be realized. Constructed with the view of connecting Calcutta with a new and auxiliary port at the Mutlah, none of the requisite conveniences and accommodations for a port

were provided, and the feeling was strongly entertained by some that the work was uncalled for, by others that it was visionary. This state of things has, however, recently been changed, and all doubts have been removed, by the formation of a Company, which has undertaken to build jetties and wharves, and to provide all that is necessary to make Canning-Town a convenient trading port. The Government has also consented that the steamers which carry the mails, &c., between Calcutta and the Straits Settlements, Chittagong, and Akyab, shall start from the Mutlah instead of the Hooghly. An impetus has thus been given to the Railway, and encouraging hopes held out of its success.

STATEMENT showing the Receipts from Passengers and Goods, and the Number of Passengers carried during the Half-year ending 30th January 1862, and the Years ending 30th June 1863 and 30th June 1864.

Period.	Receipts from		Total Receipts.	Working Expenses.	Deficiency.	Number of Passengers carried.				Total Number of Passengers.
	Passengers.	Goods.				1st Class.	2d Class.	3d Class.		
	£	£	£	£	£					
Half-year ending 30th June 1862 - -	1,274	271	1,545	1,739	194	687	2,513	82,590		85,790
Year ending 30th June 1863 - - -	2,585	259	2,844	3,418	574	1,539	5,964	168,478		175,981
								4th Class.	Garden and Produce Train.	
Year ending 30th June 1864 - - -	4,630	1,915	6,559	8,380	1,821	2,648	13,514	237,670	48,845	302,677

The deficiency has, with the approval of Government, been added to the amount due to the Government for advances on account of guaranteed interest, and will be repaid in the same way out of the excess profits over 5 per cent.

GREAT SOUTHERN.

67. Fair progress has been made in the works on the extension of this line to Errode, where it will join the Madras Railway. It is expected to be completed next year.

68. The results of the traffic on the open line cannot be regarded as satisfactory. The receipts have been less than the previous year, and the expenses greater. The falling off in the traffic is accounted for by the state of the trade in salt and other products during the year. The indifferent access to the stations, also, still hinders its general development, and prevents it from being drawn from its old channels.

TABLE I.

Showing the Amount of Receipts from Passengers and Goods, and of the Working Expenses, &c.

Period.	Miles open.	Receipts from			Expenses of Working and Maintenance.	Net Receipts.	Proportion per Cent. of Expenses to Receipts.
		Passengers.	Goods, &c.	Total.			
		£	£	£	£	£	
Year ending 30th June 1863 - - -	79	15,530	10,917	26,447	12,251	14,196	46·32
Ditto, 30th June 1864 -	79	16,158	11,182	27,340	13,623	13,717	49·82

TABLE II.

Statement showing the Number of Passengers conveyed.

Period.	Number of Miles open.	Number of Passengers.			
		1st Class.	2d Class.	3d Class.	Total.
Half-year ending 30th June 1863 -	79	1,493	9,800	317,272	328,565
„ „ 1864 -	79	1,356	3,968	293,921	299,245

SUMMARY.

69. To sum up: the present system of guaranteed railways comprises a length of 4,917 miles, of which 3,186 are now open for traffic. It is estimated that when this system is completed with a single line it will have cost about 77,500,000*l.* Of this sum, about 57,600,000*l.* had been raised, and 55,000,000*l.* had been expended, on the 1st May 1865.

70. The materials which have already been sent out from this country to aid in the construction of the railways amount to 2,900,000 tons, and 16,500,000*l.* has been expended upon them.

71. The proprietors of Indian Railway securities now number 36,500, of whom 3,175 have been added during the past year.

72. The amount received from passengers, in the year ending the 30th June 1863, was 682,343*l.* In the year ending 30th June 1864, it was 981,948*l.*

73. The amount received for the conveyance of goods in 1862–63 was 948,324*l.*, and in 1863–64, 1,406,963*l.*

74. The net profits in the year 1862–63 amounted to 690,834*l.*, and in 1863–64 to 947,320*l.*

75. The number of passengers conveyed last year were 11,781,683, compared with 9,242,540 in 1862–63. Of those who travelled last year, 1·12 in every 100 used the first class, 4·78 used the second class, and more than 94 per cent. were third-class travellers.

76. It should be borne in mind that the results here given are obtained from lines either not yet, or only just, completed. The traffic on the main lines will, from all accounts, be enormous. If this traffic be properly conducted, and if economy prevail in the various departments connected with the working and maintenance of the lines, the results will be very satisfactory. But whether, as commercial undertakings, their success is great or moderate, no country in the world will, either directly or indirectly, derive greater advantages from railways than India.

I have the honour to be,

Sir,

Your most obedient Servant,

JULAND DANVERS.

APPENDIX.

No. 1.

24, Brook Street,
25th April 1865.

DEAR SIR,

In reply to your inquiry regarding the physical condition of candidates for appointments on the railways in India, and the health of those who are sent out, I beg to offer the following observations.

Of those presenting themselves for examination, during the last twelve months, one in five have been rejected. As the arduous duties which most of these persons have been fulfilling, up to the date of examination, may themselves be almost regarded as tantamount to a certain selection, and as the large proportion of such persons already employed on English railways have, in many instances, passed a special medical examination on being engaged for these railways, this percentage of rejections must be regarded as a large one.

In some instances, the special requirements of an Indian climate, as to prospective health, havebeen the cause of rejection. But in the majority of cases, rejection has been necessary from organic lesions, or obvious tendencies to disease, such as would disqualify the subjects of them for acceptance as "first-class lives" by any London Life Office adopting the usual method of inquiry through a qualified physician.

In many instances, such lesions or tendencies have been associated with a certain degree of what may be termed premature decay, the constitution and organs resembling those of a person older than the age already attained. This condition, which is of course a disqualification for many arduous mechanical callings in India, and which especially lowers the resisting force required successfully to oppose the influence of change of climate, is not uncommon among those whose labour through life has hitherto been unusually fatiguing:—for example, among workers in metal, and especially among those habitually engaged in piece-work.

It is, perhaps, an illustration of this statement to notice, that while the average age of the persons examined is 30, the average age of those rejected is from 33 to 35 years.

It need hardly be said that the age of those sent out must exercise its ordinary influence on the rate of mortality. But inasmuch as, in many instances, the posts to be filled require long experience and high character, it is evident that the officers of the Railway Companies must always be, as a body, liable, on this ground, to a larger mortality than recruits and junior officers despatched to India for military service.

The special duties of many of the railway officers presumably repeat this unfavourable contrast, by implying exposure and fatigue exceeding those incurred by the Queen's troops not on active service. The surveying and construction of railroads must, I should judge, in many instances, necessarily place those engaged on such duties in places (such as the neighbourhood of variable rivers and low alluvial plains) peculiarly the haunts of malaria, productive of fevers and agues. If, as I believe is the case, the surveying engineers of some of the railways have suffered much from such ailments, the cause may at least be partially found in the above circumstances. Certainly, in all my Life-office experience, I have never examined any body of gentlemen at all approaching these in respect of the vigour and health they have collectively shown under examination before proceeding to India.

There are various topics bearing on the health of the artisans sent out, which I cannot profitably enter on at present. The influence of alcoholic intemperance; the occurrence, in some instances, of a kind of nostalgia or home-sickness; the careless habits of life many seem to fall into, are illustrations of what I allude to. If it were possible (which I am afraid it is *not*), some of these and other detrimental circumstances might be diminished by these men taking out their wives with them, and by the habitual substitution of the voyage round the Cape for the overland journey, in which the change of climate is comparatively sudden, and in which men of this class, accustomed to arduous exertion and moderate food, are placed in enforced idleness, and on what I presume are almost unlimited rations of food, if not of drink, just at the time when this change is being rapidly undergone by them. From such causes it has occasionally happened, that men leaving England in perfect health have arrived in India temporarily, or even permanently, unfit for the duties they had discharged with the utmost efficiency up to the date of their medical examination here.

I have, &c.,
WILLIAM BRINTON, M.D., F.R.S.

Juland Danvers, Esq.
&c. &c.

No. 2.

CLAUSE XI. of the East Indian Railway Company's Act of 1864, empowering the Company to establish Provident Institutions and Savings Banks for Servants of the Company.

11. And whereas the Company have in their service numerous officers, servants, and workmen, who are principally resident at stations on the lines of railway of the Company in the East Indies, where there are no Savings Banks, and such officers, servants, and workmen are debarred the benefit of such and other public institutions established for the investment and accumulation of small savings, and the Company are desirous of encouraging habits of prudence and economy amongst their officers, servants, and workmen, and with that view are desirous of establishing Provident Institutions and Savings Banks for the benefit of such officers, servants, and workmen, and it is expedient and will be advantageous that such Provident Institutions and Savings Banks, and the establishment and maintenance thereof, and the rules and regulations for the conduct and government thereof, should be sanctioned by and receive the authority of Parliament: Therefore it shall be lawful for the Company to establish Provident Institutions and Savings Banks at Calcutta, and any other place or places where the Company may have stations or other establishments, with power to receive by way of deposit from any of the officers, servants, workmen, or apprentices of the said Company, or any members of their families, any sum or sums of money at interest; and it is hereby enacted that all and every such deposit, with the interest due thereon, shall be a charge upon the tolls, undertaking, lands, and tenements of the Company next in order and priority after any monies they may at any time be authorized to borrow, and after any present or future debentures of the Company; and it shall be lawful for the Company to make rules and regulations for the conduct, government, and management of such Provident Institutions and Savings Banks, and as to the liability and discharge of trustees, the rate of interest, withdrawal, and payment of deposits, payments to minors, married women, lunatics, and personal representatives of a deceased depositor, and otherwise in relation to such Provident Institutions and Savings Banks, and from time to time to alter, vary, modify, remake, or rescind such rules or regulations, or any of them, and to make others in lieu thereof: Provided, that all such rules and regulations, and alterations of rules and regulations, shall be submitted to the Governor General for the time being of India, and approved of by him, and a certificate of such approval under his hand, or the hand of his secretary, given previous to the same being acted upon; and such rules and regulations, and alterations of rules and regulations, so certified, shall be binding on the said Company, and the depositors and their representatives, and the same or a true copy thereof, and which copy may be certified under the hand of the said Governor or his Secretary, or of the Secretary for the time being of the said Provident Institution or Savings Bank, shall be received as evidence of such rules respectively in all cases.

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REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1865-66.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
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FOR HER MAJESTY'S STATIONERY OFFICE.

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REPORT.

To the Right Honourable Earl De Grey and Ripon, Secretary of State for India.

My Lord, India Office, 24th May 1866.

I have the honour to lay before your Lordship the following Report on the condition of the Railways in India up to the close of the year 1865, as well as an account of the expenditure of the various Companies up to the 30th April last, and of their financial position at that date.

Length of line open, and general progress of works in India.

2. The length of open line has increased during the year from 2,945 to 3,332* miles by the addition of 116 miles to the Great Indian Peninsula Railway, 40 to the Madras, and 24½ to the East Indian, and by the opening of the Punjab line between Lahore and Mooltan, a distance of 208 miles.

Jumna Bridge at Allahabad.

3. Until August last there was a gap on the East Indian line at the Jumna, near Allahabad, but the splendid iron girder bridge, which spans that river, was then opened, making the year 1865 memorable in the railway history of India as that in which an uninterrupted traffic was first established between Calcutta and the left bank of the Jumna at Delhi. This distance of 1,020 miles can now be traversed in 37 hours. Ten years ago the same journey generally occupied almost as many days, and, at express speed, seldom less than a fortnight. The bridge at Delhi is still incomplete, so that the railway does not yet enter that city, but the work is going on satisfactorily and will probably be finished in the course of the present year.

Jubbulpore Line

4. The progress which has been made on the Jubbulpore branch of the East Indian line is such as to warrant the expectation that it will be ready for traffic by the cold season of 1867. The communication between Calcutta and Bombay will not, probably, be completed, for more than a year after that time, as the works on the Great Indian Peninsula Railway, although now being vigorously proceeded with, have hitherto been in a backward state. The line which will connect Bombay with Madras will be finished about the same time, so that, by the beginning of the year 1869, continuous railway communication between Madras, Bombay, Calcutta, and Delhi will be established.

5. The following table shows the length of each line now open for traffic and the extent remaining to be finished.

Railway.	Total Length as at present sanctioned (given approximately).	Length opened during 1865.	Length opened since 1st January 1866.	Total Length now opened (1st May 1866).	Length remaining to be finished in			
					1866.	1867.	1868 and subsequently.	Total.
East Indian - { Main line	1,276¼	24½	—	1,129¼	—	—	147	147
East Indian - { Jubbulpore line	225	—	—	—	—	—	225	225
Great Indian Peninsula - -	1,266¾	116	—	701½	220	145¾	200	565¾
Madras - { S.-W. line, including Bangalore branch	492	—	—	492	—	—	—	—
Madras - { N.-W. line	318	40	—	119	32	58	129	219
Bombay, Baroda, and Central India -	310	—	—	306	—	4	—	4
Scinde - - - - -	109	—	—	109	—	—	—	—
Punjab - - - - -	253	208	—	253	—	—	—	—
„ Delhi - - - -	320	—	—	—	30	57	233	320
Eastern Bengal - - -	159	—	—	114	—	—	45	45
Great Southern - - -	166	—	—	79	—	87	—	87
Calcutta and South-Eastern -	29	—	—	29	—	—	—	—
Total - - - -	4,944	388½	—	3,331¾	282	351¾	979	1,612¾

* This is exclusive of the lines belonging to the Indian Branch Railway and the Indian Tramway Companies.

New line.

6. The length of line now sanctioned under the guaranteed system is 45 miles more than that given in my last Report. This addition consists of the extension of the Eastern Bengal Railway (which was then contemplated) from near Kooshtea, its present terminus, to Goalundo, a place situated at the confluence of the Ganges and Barampootra rivers, where the railway will receive the down traffic of these streams.

Ratio of line open and under construction.

Extent of double line.

7. It will be seen that of the whole extent authorized, viz., 4,944 miles, above two-thirds have been opened for traffic. Of the 3,332 miles, which form this proportion only about 250 miles are at present made with a double line. It has already been found necessary, however, in consequence of the unexpected development of the traffic, to take measures for the doubling of a greater extent, and a still further increase of the double system is in contemplation.

Chord line of the East Indian Railway.

Contract for.

8. Last year I stated that the extension of the Raneegunge branch of the East Indian Railway to Luckieserai on the main line had been determined on. This new work, which is called the Chord Line of the East Indian Railway, because it connects at Burdwan and Luckieserai two ends of the crescent formed by the main line *viâ* Rajmahal, has been let under contract to Messrs. Brassey, Wythes, and Perry. Its length from Barrakur, to which place the railway is now open, is 123 miles, and it is to be made with a double line of rails at once. There is also a branch of 24 miles to the coal fields, to be constructed with a single line. The contract price is about 8,500*l.* per mile, exclusive of permanent way and rolling stock, which, with contingencies, will probably bring the cost to 14,000*l.* a mile, or about 2,000,000*l.* for the whole.

Materials exported from this country.

Fuel.

9. The work which is thus going on, together with the supplies required for the maintenance and working of the open lines, still renders necessary a large annual consignment of goods from this country. The consumption of fuel has increased every year, and the quantity of coal sent from hence must continue to increase, unless the coal fields of Central India, which are to be connected with the Great Indian Peninsula Railway, prove capable of furnishing the railways of Western India with good fuel at less expense than is incurred in using that from England.

Rolling stock and sleepers.

10. The requisitions for locomotives and rolling-stock also continue to be very great, and the substitution to some extent of iron for wooden sleepers has added to the demand upon this country for materials. Compared with last year there has been an increase of 50 per cent. upon the amount of goods shipped.

Rates of freight.

11. The rate of freight in the two years did not much vary, being on an average 1*l.* 12*s.* in the former, against 1*l.* 11*s.* in the latter year. But at the present time a considerable rise has taken place in freights, and in some cases lately it has been necessary to pay 45*s.* per ton. This charge is more than four times as much as the value in England of the coal despatched, and points out the importance of taking advantage of Native supplies wherever practicable. The present high rates for outward bound cargoes are, in some measure, owing to a temporary over supply of ships for homeward voyages.

Shipments during 1865.

12. The following table contains particulars of the shipments during the past year :—

Railway Company.	Number of Ships employed in 1865.	Amount of Goods shipped in 1865.	Value of Goods shipped in 1865.	Amount paid for Freight and Insurance in 1865.
		Tons.	£	£
East Indian	47	31,370	260,942	35,852
Great Indian Peninsula	119	59,496	323,620	81,092
Madras	75	44,352	380,542	74,842
Bombay, Baroda, and Central India	43	14,916	238,738	29,850
Scinde	110	2,729	19,728	1,601
Punjaub		2,251	33,283	4,000
Indus Flotilla		1,096	34,521	3,858
Delhi		23,279	240,420	38,830
Eastern Bengal	27	2,660	64,926	5,413
Great Southern of India	15	16,762	127,300	28,583
Calcutta and South-Eastern	6	236	5,526	466
Total	442	199,157	1,729,543	304,387

13. The quantities which have been exported from this country to India for the purpose of the railways since their commencement will be seen in the subjoined account:— Shipments since commencements of railway works in India.

Year.	No. of Ships.	Ships lost.	Amount of Goods shipped.	Value of Goods shipped.
			Tons.	£
Up to end of 1860 - - -	2,605	39	2,094,686	10,431,976
In 1861 - - - -	407	—	182,621	1,669,443
„ 1862 - - - - -	280	1	138,013	1,487,582
„ 1863 - - - - -	279	2	166,840	1,285,464
„ 1864 - - - - -	233	—	102,318	1,018,164
„ 1865 - - - - -	442	2	199,157	1,729,543
Total - -	4,246	44	2,883,635	17,622,172

14. Two ships, both bound for the Madras coast, have been lost during the past year. One with goods for the Madras Railway to the value of 1,962*l.*; and one chartered by the Great Southern Railway Company, with a cargo valued at 11,574*l.* In both cases, the goods were fully insured. Loss of ships and cargoes in 1865.

15. The following table shows the number of locomotive engines and carriages, &c., belonging to each Company, and added during the past year:— Amount of rolling stock and Locomotive power.

Railway.	Locomotives.			Passenger Carriages.		Trucks and Waggons.		Total Number of Vehicles on 31st December 1865.
	Former Number.	Added in 1865.	Total Number, 31st Dec. 1865.	Former Number.	Added in 1865.	Former Number.	Added in 1865.	
East Indian - - - -	311	17	328	518	5	4,157	510	5,190
Great Indian Peninsula -	118	25	143	270	32	3,226	200	3,728
Madras - - -	76	4	80	165	25	1,807	416	2,413
Bombay, Baroda, and Central India - - -	65	7	72	236	1	3,121	801	4,159
Scinde - - -	31	—	31	66	—	647	—	713
Punjaub - - -	15	19	34	90	13	387	105	595
Eastern Bengal - -	20	8	28	102	—	370	—	472
Great Southern of India -	11	—	11	33	2	171	2	208
Calcutta and South-Eastern -	6	—	6	42	—	157	—	199
Total - -	653	80	733	1,522	78	14,043	2,034	17,677

16. This stock is inadequate for the present traffic. A large addition will consequently be made as soon as practicable. Orders have been given by the East Indian Railway Company for 215; by the Great Indian Peninsula for 140; by the Delhi for 100; and, by the Madras, Bombay, Baroda and Central India, Eastern Bengal, and others, for 38 new engines. The delivery of these 418 engines will, however, be spread over three or four years.

17. The number of shareholders in the Indian railways continues to increase in proportion to the amount of capital issued. This has now reached a sum of about 60,860,000*l.*, and is held in the manner shown by the following table:— Shareholders,

Railway.	Number of Shareholders on 31st December 1865.						Number of Debenture Holders.	Total Number of Proprietors on the 31st December 1865.
	Registered in England.			In India.				
	With Stock to the Amount of 1,000*l.* and upwards.	With Stock of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.		
East Indian	4,650	5,453	10,103	146	113	259	3,630	13,992
Great Indian Peninsula	3,170	4,240	7,410	78	133	211	1,203	8,824
Madras	1,896	2,613	4,509	—	—	—	845	5,354
Bombay, Baroda, and Central India.	1,432	2,225	3,657	20	69	89	598	4,344
Scinde	538	686	1,224	16	3	19	290	1,533
Punjaub	526	746	1,272	17	2	19	63	1,354
Delhi	492	578	1,070	40	6	46	—	1,116
Indus Flotilla	86	198	284	—	—	—	120	404
Eastern Bengal	387	531	918	9	18	27	399	1,344
Great Southern of India	231	317	548	4	10	14	58	620
Calcutta and South-Eastern.	110	242	352	28	50	78	151	581
Total	13,518	17,829	31,347	358	404	762	7,357	39,466

Shares held in India.

18. One notable feature in this statement is the small number of persons in India, whether Europeans or Natives, who have any stake in the railways. Of the total number of possessors of stock, those in India, taking Europeans and Natives together, amount to only about two per cent., and taking Natives alone, to scarcely more than one per cent.

19. This is one instance amongst several others of how the calculations made at the commencement of these railway operations have proved erroneous. In a despatch from the late Court of Directors of the East India Company to the Government of India, dated 14th November 1849, it was suggested that provision should be made against raising too large an amount of capital in India, as it was thought that the difficulty of obtaining the annual amount required from India for the expenses of the Indian Government in this country might be increased thereby. The result has shown that there were no grounds for such apprehensions.

New Indian legislation in respect to railways.

20. Hitherto no act of the Indian Legislative Council has existed for the regulation of lines of railway not directly under the superintendence of Government. Act XVIII. of 1854 applied only to the guaranteed lines. A Bill has been prepared for consolidating and amending the law relating to railways in India, with the view of remedying existing defects, and of providing a sound basis for the future regulation and management of all railways by whatever agency they are constructed or worked. Before proceeding further with the Bill, an opportunity has been given to the Railway Boards to express their views upon the provisions contained in it.

UNGUARANTEED RAILWAYS.

Unguaranteed lines.

21. With regard to the progress which has been made with those undertakings which were not started under the guarantee system, but which receive assistance in the shape of a subsidy from the Government, there is not at present much to report. They are still confined to the "Indian Branch Railway" and the "Indian Tramway" Companies.

Indian Branch Railway Company.

22. The Branch Railway Company have opened a line 27 miles in length from Nulhatee, on the East Indian Railway, to Moorshedabad, but hitherto the traffic has been such as to disappoint expectations. The chief hopes of the Company are, however, placed upon the line which they are constructing between Cawnpore and Lucknow, and which is rapidly approaching completion. It is made with the 5 ft. 6 in. gauge, and is reported to have been well executed at a cost not exceeding 5,000*l.* a mile, including rolling stock. It would appear to possess the elements of success, connecting as it does two large cities, between which there is already a considerable traffic. The further operations of the Company in Oude and Rohilcund have not proceeded beyond the surveys for the proposed extended lines, the Board deeming it advisable to await the result of the working of the Cawnpore and Lucknow section before more is attempted. The whole expenditure of the Company upon the two lines, including 60,000*l.* borrowed from the Secretary of State in Council, to complete the equipment of the Cawnpore and Lucknow line, amounts to about 400,000*l.*

Cawnpore and Lucknow Line.

Future operations of.

Expenditure.

23. The Indian Tramway Company has opened a line in the Madras Presidency, 19 miles in length, from Arconum to Conjeveram. It has been constructed at the rate of about 4,000*l.* a mile, the 3 ft. 6 in. gauge having been adopted and light rails used. The traffic does not appear to be large at present, but the earnings per mile per week have only to reach the moderate rate of 9*l.* to realize a profit of 5 per cent. This Company has a scheme for extending its operations, but the measure of the assistance to be granted to them by the Government for the purpose has not yet been determined.

Indian Tramway Company.
Line from Arconum to Conjeveram.
Extension operations.
Government assistance.

24. It may be observed that all future railways, especially those which are connected with the main lines, will derive great advantage from the facilities for the transport of materials which they will afford. One main source of expense and delay in the construction of the trunk lines has been the difficulty of conveying the heavy materials along imperfectly constructed roads, and, in some places, across country destitute of permanent communications.

Facilities in construction of new lines.

PERSONS EMPLOYED ON THE LINES.

25. The absence of the returns from the Bombay Presidency of persons employed on the open lines makes the following table incomplete, and prevents a comparison being made with that of the previous year. It may be taken for granted that, for some time to come, the number of Europeans will increase with the increase of open lines and of traffic. Measures are, however, taken to train the Natives and Indian born so as to become qualified for situations which hitherto have been filled almost exclusively by European mechanics. On the Great Indian Peninsula Railway two or three Natives have already been employed as engine-drivers.

Persons employed on the open lines.

Railway.	Agent's Department.			Locomotive and Carriage Department.			Traffic Department.			Engineers' Department.			Stores Department.			Telegraph Department.			Grand Total.			No. of Miles open for Traffic.	No. of Stations open.
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.		
East Indian (Bengal Division)	72	859	931	532	4,320	4,852	292	2,542	2,834	42	2,405	2,447	40	315	355	32	406	438	1,010	10,847	11,857	1,129	110
Do. (North-West Provinces)	14	86	100	220	1,439	1,659	104	1,255	1,357	76	3,994	4,070	9	214	223	46	417	463	469	7,403	7,872		
Total - -	86	945	1031	752	5,759	6,511	396	3,795	4,191	118	6,399	6,517	49	529	578	78	823	901	1,479	18,250	19,729		
Eastern Bengal -	6	95	101	54	323	377	38	480	518	20	1,198	1,227	2	45	47	7	53	60	136	2,194	2,330	110	21
Calcutta and South-Eastern	5	36	41	15	166	181	7	78	85	5	19	24	—	9	9	—	—	—	32	308	340	28	8
Madras - - -	20	182	202	358	2,696	3,054	158	1,260	1,418	81	4,159	4,240	15	72	87	—	—	—	630	8,369	8,999	611	61
Great Southern of India -	23	42	65	20	17	37	2	145	147	5	313	318	—	—	—	—	—	—	50	517	567	79	14
Great Indian Peninsula -																							
Bombay, Baroda, and Central India - - -																							
Scinde - -																							
Scinde - Punjaub - -	12	28	40	60	759	819	43	438	481	29	15	44	7	263	270	28	31	59	179	1,525	1,704	253	19
Delhi -	1	2	3	—	—	—	—	—	—	20	23	43	—	—	—	—	—	—	21	25	46	Nil.	Nil.
Indus Flotilla -																							

26. The following statement gives the casualties amongst the European staff during the past year, and the number of candidates in this country rejected by the examining physician. A letter from that officer will be found in the Appendix, explaining the grounds of his rejections, and offering some practical observations on the influence of an Indian climate upon certain constitutions and conditions of health. It will be observed that Dr. Brinton lays great stress upon the importance of selecting those only of the mechanical class who are free from the effects of intemperate habits.

Casualties amongst European Staff.
Candidates rejected by the Examining Physician.

1865.	East Indian.	Great Indian Peninsula.	Madras.	Bombay, Baroda, and Central India.	Scinde.	Punjab.	Indus Flotilla.	Eastern Bengal.	Calcutta and South-Eastern.	Great Southern.	Total.
Deaths - -		20	2	9	—	3	—	1	1	1	37
Retirements from ill health -		6	1	3	3	2	3	1	1	—	20
Number of Candidates in this country rejected by the Examining Physician -	10	22	3	7	—	8	—	—	—	—	50

ACCIDENTS.

Accidents.

27. The usual returns regarding accidents for the year 1864 not having been received from India in time for insertion in the body of this report, the statements are given in the Appendix, together with the observations thereon of Captain E. C. T. Williams, R.E., Under Secretary to the Government of India. It appears that out of about 13,000,000 passengers, 18 or 1·39 per million were killed, and 44 or 2·39 per million were injured from causes beyond their control; and that five were killed and six injured from their own misconduct or incaution. One singular class of casualty with which we are not familiar in this country, and which is not included in the returns given, is that which comes under the head of "found dead." It appears that the number of persons so found are considerable, death, it is supposed, being caused by the effects of the great heat upon those who undertake journeys and religious pilgrimages when they are physically unfit for the exertion.

CAPITAL.

Capital.

28. The total expenditure of capital on the lines which are open and are in course of construction amounted on the 1st May (instant), to 60,645,000*l.*, of which expenditure 22,000,000*l.* was incurred in England, and 38,645,000*l.* in India.

Amount raised.

29. The amount raised up to the same period was 60,860,000*l.*, of which 47,980,000*l.* is in share capital, and 12,880,000*l.* in debentures.

Amount expended.

30. The expenditure last year was 5,384,431*l.*, of which 2,192,090*l.* was expended in England, and 3,192,323*l.* in India. This is slightly in excess of the estimate made at the beginning of the year, and is 1,500,000*l.* more than the expenditure of the previous year.

Expenditure for 1866–1867.

31. The estimated expenditure for the current year is for England about 2,800,000*l.*, for India about 3,600,000*l.*, which is greater than it has been for several years. This is owing to the vigorous efforts now being made to complete the works on the lines in course of construction, and to the large supplies of locomotive engines and rolling stock required to equip the open lines. The balance now in the Government Treasury towards meeting this expenditure of 6,800,000*l.* is only about 220,000*l.* In addition to the amount required for this year's expenditure, the sum of 1,000,000*l.*, which the Government has been obliged to advance to some of the Companies, will have to be raised during the year.

Cost of land in 1866–1867.

32. Besides the expenditure by the Companies from guaranteed capital, it is estimated that this year the charge against the State for land required for the new lines under construction will amount to about 360,000*l.* Last year this item was not more than 173,000*l.* The estimated loss by exchange upon the capital advanced by the Governments in India, at the rate of 1*s.* 10*d.* the rupee, was last year upwards of 400,000*l.* The gain by exchange upon the net receipts were about 140,000*l.*, leaving a net loss for the year of 260,000*l.* It has been explained in a former report how the loss which is thus incurred by Government will be covered in future years by the gains arising out of the application of the 1*s.* 10*d.* fixed rate of exchange to the earnings of the railways paid into the Government treasuries.

Loss and gain by exchange.

Estimated amount of capital to complete the Railways.

33. The sum which it is *now* estimated will be expended on the undertakings as at present sanctioned is upwards of 81,000,000*l.*, being 4,000,000*l.* in excess of last year's estimate. This is accounted for by the construction of a much larger extent of double line than was then expected to be necessary by the additional length to certain lines, and by the greater number of engines, carriages, trucks, &c., required to equip the open lines, in order to provide for the rapidly increasing traffic.

Statement No. 1.

Showing the Amount raised and expended by each Company during the year 1865–66.

Railway.	Sums standing to the Credit of the Companies on the 30th April 1865.	Sums advanced to the Companies on the 30th April 1865.	Amount raised between 1st May 1865 and 30th April 1866.		Amount expended				Total Raised during the Year ended 30th April 1866.	Total Expended during the Year ended 30th April 1866, (partly estimated).
			By Shares or by converting Debentures into Stock.	By Debentures.	In England, between 1st May 1865 and 30th April 1866.	In India.				
						Date to which Accounts have been received.	Amount.	Estimated Expenditure between dates specified and 30th April 1866.		
	£	£	£	£	£		£	£	£	£
East Indian - - -	1,014,592	—	796,642	—	320,534	28th Feb. 1866	589,399	160,000	796,642	1,069,933
Great Indian Peninsula - -	72,852	—	1,560,162	447,050	522,867	„	841,294	200,000	2,007,212	1,564,161
Madras - - - -	422,671	—	307,758	—	346,085	„	203,066	50,000	307,758	599,151
Scinde - - - -	39,991	—	27,140	65,400	27,707	„	11,214	5,000	92,540	43,921
Indus Flotilla - - -	—	14,517	—	—	96,967	„	—	2,000	—	98,967
Punjab - - - -	—	196,641	62,270	—	31,373	„	121,718	30,000	62,270	183,091
Delhi - - - -	945,779	—	900	—	355,362	„	267,586	50,000	900	672,948
Bombay, Baroda, and Central India	17,568	—	354,328	—	300,355	„	370,199	80,000	354,328	750,554
Eastern Bengal - - -	—	10,181	176,450	—	50,305	„	46,157	20,000	176,450	116,462
Calcutta and South-Eastern -	—	8,206	2,550	16,870	7,667	„	27,539	6,000	19,420	41,206
Great Southern - - -	71,414	—	18,100	—	132,868	„	91,151	20,000	18,100	244,019
Total - -	2,584,867	229,545	3,306,300	529,320	2,192,090	—	2,569,323	623,000	3,835,620	5,384,413
	Net Balance - £2,355,322									

Statement No. 2.

Estimated Expenditure for the Year 1866-67 on Capital and Revenue Account.

Railway.	Estimated Expenditure from 1st May 1866 to 30th April 1867.			Sum standing to the Credit or Debit of the Companies on the 1st May 1866 (partly estimated).	* Sums to be raised by the Companies during 1866-67.	Total Amount now placed and to be placed in the Home Treasury of Government for 1866-67.	Estimated Balance on the 1st May 1867.
	In England.	In India.	Total.				
	£	£	£	£	£	£	£
East Indian	600,000	1,200,000	1,800,000	416,979	1,683,021	2,100,000	300,000
Great Indian Peninsula	750,000	750,000	1,500,000	515,903	1,234,097	1,750,000	250,000
Madras	300,000	600,000	900,000	25,578	1,074,422	1,100,000	200,000
Scinde	45,000	25,000	70,000	17,410	57,590	75,000	5,000
Indus Flotilla	60,000	30,000	90,000	Dr. 171,708	266,708	95,000	5,000
Punjab	100,000	200,000	300,000	Dr. 317,402	637,402	320,000	20,000
„ Delhi	500,000	300,000	800,000	272,840	777,160	1,050,000	250,000
Bombay, Baroda, and Central India	300,000	350,000	650,000	Dr. 437,508	1,187,508	750,000	100,000
Eastern Bengal	120,000	60,000	180,000	46,553	183,447	230,000	50,000
Calcutta and South-Eastern	20,000	30,000	50,000	Dr. 39,992	94,992	55,000	5,000
Great Southern of India	70,000	120,000	190,000	Dr. 112,505	312,505	200,000	10,000
Total	2,865,000	3,665,000	6,530,000	Cr. 1,295,263 Dr. 1,079,115 Net Cr. 216,148	7,508,852	7,725,000	1,195,000

* In cases where Companies have overdrawn, the sums in this column include the amount of the arrears which have to be made up.

Statement No. 3.

Showing the Amount of Capital estimated to be required for each Undertaking, as now sanctioned, the Amount raised, and the Amount expended, to 30th April 1866.

Railway.	Amount estimated to be required for the Undertaking as now sanctioned with a certain length of Double Line.	Amount authorized by Government to be raised up to 30th April 1866.				Amount raised in England to 30th April 1866.			Amount raised in India to Date of last Advices.	Total raised to 30th April 1866.	Total Amount advanced for Expenditure to 30th April 1866 (partly estimated).
		Share Capital.	Debentures.		Total.	By Shares.	By Debentures.				
			Convertible into Shares.	Inconvertible.			Convertible.	Inconvertible.			
	£	£	£	£	£	£	£	£	£	£	£
East Indian - { Main line* -	27,000,000	22,253,661	1,796,339	2,700,000	26,750,000	16,531,679	1,743,999	2,700,000	279,785	21,255,463	22,414,090
East Indian - { Jubbulpore -	3,500,000	2,000,000	1,200,000	—	3,200,000	1,952,165	1,200,000	—	7,665	3,159,830	1,584,224
Great Indian Peninsula - -	17,000,000	13,000,000	—	3,000,000	16,000,000	11,222,221	—	2,767,050	379,464	14,368,835	13,852,932
Madras - { S.-W. line and Bangalore branch (85 m.) -	5,500,000	4,582,550	1,106,450	311,000	6,000,000	3,532,828	1,106,450	311,000	—	4,950,278	7,799,092
Madras - { N.-W. line - -	4,500,000	3,000,000	—	—	3,000,000	2,872,792	—	—	—	2,872,792	
Bombay, Baroda, and Central India	7,000,000	4,732,900	1,167,100	100,000	6,000,000	4,432,815	1,146,395	100,000	21,662	5,700,872	6,138,380
Sind - - - -	2,000,000	1,669,200	330,800	—	2,000,000	1,647,155	330,800	—	21,695	1,999,650	1,982,240
Indus Flotilla - - -	600,000	541,100	82,900	—	624,000	250,005	24,400	—	—	274,405	446,113
Punjab - - - -	2,530,000	2,000,000	—	500,000	2,500,000	1,528,083	—	500,000	8,404	2,036,487	2,353,889
„ Delhi - - -	6,000,000	2,500,000	—	—	2,500,000	1,043,087	—	—	5,411	1,048,498	775,658
Eastern Bengal - - -	2,500,000	1,500,000	—	600,000	2,100,000	1,167,195	—	596,700	9,301	1,773,196	1,726,643
Calcutta and South-Eastern -	600,000	312,550	287,450	—	600,000	292,927	160,870	—	19,623	473,420	513,412
Great Southern - - -	1,500,000	874,500	125,500	150,000	1,150,000	752,779	91,600	100,000	1,221	945,600	1,058,105
Total - - -	80,730,000	58,966,461	6,096,539	7,361,000	72,424,000	47,225,831	5,804,514	7,074,750	754,231	60,859,326	60,644,778

* Including the chord line to Luckeserai, *viâ* Barrakur.

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34. The outstanding amount issued by each Company in the shape of debentures is shown in the following statement. It will be understood that the repayment of the capital at the expiration of the term is guaranteed by the Indian Government, as well as the payment of interest. The form of a debenture contract between the Government and the Railway Companies is given in the Appendix.

Present State of Debenture Loans.

Railway.	Amount.	Total Amounts.	Conditions.	Date at which Loan expires.
	£	£		
East Indian	51,000		Convertible into stock	10th July 1867.
„	47,200		„	5th April 1869.
„	10,800		„	10th July „
„	474,420		„	5th Oct. „
„	190,000		„	20th Jan. 1870.
„	1,200,000		Convertible and renewable after the first term of five years.	23d Mar. „
„	1,500,000		Inconvertible	10th Aug. „
„	1,381,620		„	15th Dec. „
„	831,960	5,687,000	Convertible	1st April 1871.
Madras	1,417,450	1,417,450	Part convertible and inconvertible.	1867, 1869, 1870, 1871, 1872.
Great Indian Peninsula	3,000,000	3,000,000	Part renewable and inconvertible.	1866, 1867, 1869, 1870, 1871, 1872.
Sind	330,800	330,800	Convertible	May 1870.
Indus Flotilla	82,900	82,900	Convertible and renewable	May 1866.
Punjab	500,000	500,000	Inconvertible	1868 and 1870.
Bombay, Baroda, and Central India	288,745		Convertible and renewable	1867, 1872.
„ „ „	79,300		Inconvertible	1871.
„ „ „	399,900	767,945	Convertible and renewable	1870 or 1875.
Eastern Bengal	400,000		Renewable	April 1866 or October 1866.
„ „	200,000	600,000	„	Nov. 1869.
Calcutta and South-Eastern	50,000		Convertible (renewed)	1866.
„ „	40,000		„ „	1867.
„ „	100,000		Convertible or renewable	1870.
„ „	97,450	287,450	Convertible	1871.
Great Southern of India	49,500		„	1866.
„ „ „	50,000		Renewable	1867.
„ „ „	26,000		„	1870.
„ „ „	150,000	275,500	Inconvertible	1871.

Capital Expenditure each year.

35. The following table shows the sums that have been annually expended since the commencement of operations, and the mileage completed in each year. As the expenditure applies to the works in progress, as well as to those which are finished, the mileage does not bear any relative proportion to the expenditure; this is particularly exemplified in the years 1859 and 1862:—

Year.	Miles opened during the Year.	Expended in England.	Expended in India.	Total.
		£	£	£
Up to 1850	—	130,375	44,781	175,156
In 1851	—	154,212	197,111	351,323
„ 1852	—	174,920	252,640	427,560
„ 1853	22¼	252,484	418,165	670,649
„ 1854	50½	960,878	768,710	1,729,588
„ 1855	98¼	1,939,101	1,431,904	3,371,005
„ 1856	101¾	1,752,813	1,765,094	3,517,907
„ 1857	143	1,324,873	2,092,395	3,417,268
„ 1858	145	1,940,052	3,551,073	5,491,125
„ 1859	74½	2,507,949	4,654,923	7,162,872
„ 1860	208	2,396,924	5,192,846	7,589,770
„ 1861	759	1,596,010	4,962,604	6,558,614
„ 1862	747	1,854,289	3,956,563	5,810,852
„ 1863	233½	1,411,661	3,360,114	4,771,775
„ 1864	402¼	1,387,699	2,418,345	3,806,044
„ 1865	—	2,192,090	3,192,323	5,384,413

36. The following statement shows the manner in which the expenditure has been incurred:— Particulars of Expenditure.

Railway.	Works and Bridges.	Permanent Way and Stations.	Freight and Insurance.	Rolling Stock and Engines.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian	7,800,000	5,720,000	2,350,000	2,650,000	2,970,000	2,120,000
Great Indian Peninsula	5,634,679	3,481,334	1,317,749	1,499,355	943,764	128,861
Madras	2,154,326	2,563,596	—	534,514	608,613	281,375
Bombay, Baroda, and Central India	2,232,541	1,251,619	453,674	564,978	391,622	528,428
Scinde	390,806	332,792	157,236	200,000	254,344	412,448
Punjab	145,070	641,022	433,365	240,000	262,740	341,450
Delhi	20,393	Including stores sent out by Contractors 239,403	674	—	53,561	14,188
Indus Flotilla	38,097	Steamers and Barges. 289,354	12,415	—	53,630	46,580
Eastern Bengal	498,854	565,675	141,552	125,292	174,968	135,021
Calcutta and South-Eastern	207,300	185,600	—	—	71,300	17,400
Great Southern	255,533	206,479	90,351	—	107,026	126,732

TRAFFIC AND REVENUE.

37. The traffic on the principal lines during the past year has exceeded the most sanguine expectations. Upon the completion of the Allahabad bridge over the Jumna, on the East Indian, and of the ghât inclines of the Great Indian Peninsula, Railway, the unfinished state of which works had in former years caused serious interruptions in the traffic, the demand for the conveyance of goods was so great that the resources of the Companies were, according to the accounts from India, inadequate to meet it. The rolling stock was reported to be insufficient, the locomotive power to be strained beyond what was desirable, and the officers and servants of the Company to be hardly equal to the unexpected pressure brought to bear upon them. This state of things has unfortunately produced inconvenience and disappointment to the public, and has deprived the Companies of much that they might have earned; but, greatly as it is to be regretted, the primary cause of it cannot but be satisfactory to the Government and to the Companies. It is clear now that the traffic on these great highways will be enormous, and that for some time to come it will increase in proportion to the means provided for carrying it. As it is augmented, a proportionate decrease in the working expenses may be confidently expected, so that there is a fair prospect of an annual improvement in the revenues. In my first report, in the year 1859, I remarked,—"There are two periods in the history of these undertakings, for the "arrival of which the Government, as well as the shareholders, will look with interest. "One, when, after the completion of each undertaking, the half yearly profits shall "exceed the rate of guaranteed interest, and when half such excess will accordingly be added to the five per cent. paid to the shareholders. The other, "when the whole amount advanced by the Government for the payment of the "guaranteed interest shall have been paid off, and the shareholders will receive "the whole of the net receipts," and I ventured to express the opinion that, "assuming the requisite facilities will in all cases be afforded for obtaining a "ready access to the stations, ample grounds exist for the expectation that, when "once the lines are completed and brought into working order, the traffic will be "sufficient not only to cover the guaranteed interest, but to produce a highly "remunerative return." I did not, however, venture to entertain a hope that Traffic and Revenue.

before a line was completed, that is, while a considerable portion of the capital expended was not turned to any profit, the amount paid by the Government for the guarantee on the capital raised would be exceeded by the earnings of the railway. Yet it is not unlikely that such will be the case during the present year. The Great Indian Peninsula Railway will probably be the first to set the example. The East Indian and the Eastern Bengal Railways will, I trust, soon follow in its wake. These results, moreover, are obtained upon lines the cost of which has greatly exceeded that originally contemplated, and upon which the former estimates of dividend were made. The following table gives the result of the traffic for the years ending June 1864 and June 1865:—

Profits for the years ending June 1864 and 1865.

Railway.	Year ending 30th June 1864.		Year ending 30th June 1865.	
	Mean Mileage open.	Net Receipts.	Mean Mileage open.	Net Receipts.
		£		£
East Indian	979	500,707	1,032	772,099
Great Indian Peninsula	550	154,817	595	314,626
Madras — S.-W. Line	448	118,998	555	171,639
Madras — N.-W. Line		—		
Scinde	105	6,657	114	3,507
Punjaub	45	5,547	84	6,009
Eastern Bengal	110	41,025	110	58,746
Great Southern	79	13,717	79	14,711
	2,316	841,468	2,569	1,341,337

38. It thus appears that, during the year ending the 30th June 1865, the railways, exclusive of the Bombay, Baroda, and Central India, whose accounts have not yet been made up, yielded the aggregate sum of 1,341,337*l.*, as compared with 841,468*l.* of the previous year. The chief increase in the traffic has, however, taken place during the latter half of last year, viz., from June to December; but the revenue accounts of all the Companies have not yet been received from India, and I am only able to furnish the results of the five following lines for the year ending 31st December 1865:—

Profits for the year 1865.

Railway.	Net Receipts for year ending 31st December 1864.	Net Receipts for year ending 31st December 1865.	Guaranteed Interest paid during year 1865.	Capital, including Debentures, receiving the Guaranteed Interest in previous Column.	Estimated Amount of Capital expended on open Lines.
	£	£	£	£	£
East Indian	625,894	928,750	1,161,813	23,236,260	22,000,000
Great Indian Peninsula	178,220	480,494	609,233	12,184,660	10,000,000
Madras	156,378	219,452	367,326	7,346,520	7,000,000
Eastern Bengal	42,202	62,111	78,441	1,568,820	1,500,000
Great Southern of India	11,805	17,785	43,391	867,820	650,000
	1,014,499	1,708,592	2,260,204	45,204,080	41,150,000

39. The net amount earned by these Railway Companies last year is thus shown to be 1,708,592*l.* The guaranteed interest paid to the same Companies during the year was 2,260,204*l.* But this amount applies to a capital of 45,204,080*l.*, while the sum expended on the lines earning 1,708,592*l.* does not amount probably to more than 41,150,000*l.*, the guaranteed interest on which would be 2,057,500*l.* The amount earned by the open lines would, therefore, fall short of the sum paid for the guarantee on the capital representing those lines by only about 349,000*l.*

40. The following tables contain various particulars relating to the present state and prospects of the different lines as regards their traffic:— Receipts and expenses for 1864–65.

Railway.	Receipts for Year ending 30th June 1865.				Expenses for Year ending 30th June 1865.			Net Receipts for the Year ending 30th June 1865.	Average Receipts per Mile open.
	Passengers, &c.	Goods and Minerals.	Telegraph and Sundries.	Total.	Working.	Maintenance.	Total.		
	£	£	£	£	£	£	£	£	£
East Indian	525,669	834,380	82,055	1,442,104	505,363	164,642	670,005	772,099	748
Great Indian Peninsula	241,469	628,827	—	870,296	431,742	123,928	555,670	314,626	528
Madras	149,449	194,091	5,916	349,456	124,134	53,683	177,817	171,639	309
Bombay and Baroda	154,630	41,805	—	196,435	—	—	—	*	—
Scinde	14,940	67,553	—	82,493	78,986	—	78,986	6,657	58
Punjab	15,371	9,679	—	25,253	—	—	—	—	—
Eastern Bengal	62,158	43,959	6,723	112,840	43,390	10,704	54,094	58,746	534
Calcutta and South-Eastern	5,782	2,585	—	8,367	11,412	—	11,412	3,045†	—
Great Southern	17,017	13,801	—	30,878	16,107	—	16,107	14,711	186

* No revenue accounts have been received from India. † Deficiency.

The following table will show the gross weekly receipts which are required to yield an annual profit of 5, 6, and 7 per cent., *allowing 50 per cent.* of the gross receipts for the expenses of working and maintenance:— Per-centage on capital earned by certain gross receipts.

Railway.	Total Length of Undertaking.	Estimated ultimate Cost when finished with a certain extent of Double Line.	Average Cost per Mile when finished with a certain extent of Double Line.	Amount of Gross Receipts per Mile per Week required (50 per cent. being calculated for Working and Maintenance) to produce			Average weekly Receipts during present Year.	Proportion of Working Expenses to Gross Receipts during past Year.
				5 per cent.	6 per cent.	7 per cent.		
	Miles.	£	£	£ s.	£ s.	£ s.	£ s.	
East Indian, Main Line	1,275	28,000,000	22,000	42 6	50 15	59 0	39 0	45·7
Great Indian Peninsula	1,266	18,380,000	14,510	27 18	33 10	39 0	55 5	59·08
Madras, South-West Line	492	5,904,000	12,000	23 0	27 13	32 6	14 0	47·90
Bombay and Baroda	312	7,488,000	24,000	46 3	55 3	64 12	13 8	64·
Scinde	109	2,180,000	20,000	38 9	46 3	53 17	19 8	95·
Punjab	253	2,530,000	10,000	19 5	23 5	26 18	8 6	76·20
Eastern Bengal	160	2,720,000	17,000	32 13	39 12	45 15	28 7	50·50
Great Southern	160	1,600,000	10,000	19 5	23 5	26 18	8 10	49·52
Calcutta and South-Eastern	29	609,000	21,000	40 7	48 10	56 10	9 0	—

41. The following form corresponds with that which is adopted by the Board of Trade for the returns made to Parliament from that Department of the statistics of the railways of Great Britain and Ireland. It will be desirable, for the sake of comparison and uniformity, to apply it to the Indian railways, but the information given in it is not in possession of this Office, nor, in some cases, of the Railway Companies. It is, therefore, very incomplete this year; but the various Boards in this country have taken steps for obtaining the requisite information from India before next year's report is made. I am necessarily in some measure dependent upon the records of the Railway offices in this country for the information contained in these reports, and I have the pleasure of taking this opportunity of acknowledging the ready assistance which I have invariably received from the Secretaries to the different Companies in supplying me with the requisite materials. Forms for future years.

Statement of Traffic Results of the Year ending 30th June 1865.

	Length of Line Open.			Passenger Traffic.					Goods Traffic.										Number of Trains run.		
				Number of Passengers (exclusive of Holders of Season and Periodical Tickets).				Number of Holders of Season and Periodical Tickets.				Live Stock.			Minerals.			General Merchandise.			
	Double.	Single.	Total.	1st Class.	2d Class.	3d Class, including Parliamentary.	Total Passengers.		Carriages.	Horses.	Dogs.	Cattle.	Sheep.	Pigs.	Coal and Coke.	Other Minerals.	Total.		Passenger Trains.	Goods Trains.	Total.
	M.	M.	M.			Intermediate Class.	3d Class.	Total.	No.	No.	No.	No.	No.	No.	Tons.	Tons.	Tons.	Tons.			
East Indian - - -	155¼	970¾	1,126	32,275	82,796	286,119	3,733,755	4,134,945	–	–	–	–	–	–	202,077	–	202,077	492,681	–	–	–
Great Indian Peninsula -	60	535¾	595¾	47,668	306,923½	3d Class. 3,058,524½	Total. 3,413,116	—	–	–	–	–	–	–	–	329,935	–	554,753	11,491	20,414	31,905
Madras : South-West Line -	–	492	492	10,424	110,890	1,287,943	1,409,257	—	–	–	–	–	–	–	Materials - 34,725			230,884	–	–	–
North-West Line -	–	79	79	482	3,145	215,409	219,936	—	–	–	–	–	–	–	Ditto - 15,728			37,689	–	–	–
Total - -	–	571	571	10,906	114,035	1,503,352	1,628,293	—	–	–	–	–	–	–		50,453		278,573	–	–	–
Bombay, Baroda, and Central India - -	–	–	–	10,266	44,510	1,264,092	1,318,868	—	–	–	–	–	–	–		85,730			–	–	–
Sind : Sind - - -	–	114	114	1,738	5,015	105,294	112,047	—	–	–	–	–	–	–		27,548			–	–	–
Punjaub - - -	–	123	123	4,320	10,044	421,727	436,091	—	–	–	–	–	–	–		48,339		–	–	–	–
Eastern Bengal - -	–	110	110	41,884½	46,330	310,493½	4th Class. 756,583	Total. 1,155,291	–	–	–	–	–	–		16,545		71,509	–	–	–
Calcutta and South-Eastern - - -	–	28	28	4,877	19,115	268,479	292,471	—	–	1	–	–	–	–		1,131		14,775	–	–	–
Great Southern of India	–	79	79	1,205	3,581	330,510	335,396	—	–	–	–	–	–	–		—		38,507	–	–	–

STATEMENT of TRAFFIC RESULTS—*continued.*

	Number of Miles travelled by Trains.			Average Fares per Mile.					Receipts (Gross) from Passenger Traffic.								Receipts (Gross) from Goods Traffic.						Total Receipts from all Sources of Traffic.
				Ordinary.			Express.		Receipts from Passengers.					Total Receipts from Horses, Dogs, Carriages, &c., conveyed in Passenger Trains.	Receipts from Mails.	Total Receipts from Passenger Traffic.	Live Stock.	Minerals.			General Merchandise.	Total Receipts from Goods Traffic.	
	By Passenger Trains.	By Goods Trains.	Total.	1st Class.	2d Class.	3d Class or Parliamentary.	1st Class.	2d Class.	1st Class.	2d Class.	3d Class, including Parliamentary.	Holders of Season and Periodical Tickets.	Total from Passengers.					Coal and Coke.	Other Minerals.	Total.			
				d.	*d.*	*d.*	*d.*	*d.*	£	£	£ Intermediate Class.	£ 3d Class.	£	£	£	£	£	£	£	£	£	£	£
East Indian - -	–	–	–	2 9/10 pies.	1 1/10 pies.	1 1/10 pies.	–	–	34,634	35,395	17,365	438,276	525,670	74,320	–	599,990	1,003	–	–	93,759	731,738	826,503	1,442,104
Great Indian Peninsula	804,175½	1,273,918½	2,078,094	15	8	3	–	–	18,316	26,361	196,792	–	241,469	31,104	–	272,573	6,004	–	20,356	26,360	569,428	593,073	870,296
Madras:																							
North-West Line -		1,140,721		18	6	3	–	–	9,819	15,645	94,646	–	120,110	18,301	–	138,411	536	Materials -		13,754	170,183	183,937	322,348
South-West Line -		99,060		–	–	–	–	–	149	289	9,606	–	10,044	995	–	11,039	24	–	–	16,070	10,138	16,070	27,109
Total - -		1,239,781		18	6	3	–	–	9,968	15,934	104,252	–	130,154	19,296	–	149,450	560	–	–	200,007	–	200,007	349,457
Bombay, Baroda, and Central India - -	163,833	112,013¼	275,846¼	*d.* 1·71	*d.* ·92	*d.* ·46	–	–	4,690	10,860	119,244	–	134,794	19,834	–	154,628	1,985	–	–	–	39,321	41,806	196,434
Sind:																							
Sind - - -		319,883		1¼	¾	⅔	–	–			14,940			1,446						66,107			82,493
Punjaub - - -		90,878		1¾	1	⅓	–	–			15,571			2,298						7,381			25,250
Eastern Bengal - -		197,348		1·375	·6875	·515,625	4th Class. ·34,375	–	4,246	2,996	16,480	4th Class. 38,436	62,158	6,341	–	68,499	115			4,570	39,274	43,959	112,458
Calcutta and South-Eastern - - -		62,192		–	–	–	–	–	1,181	637	4,663	–	5,781	239	–	6,020	247	122		369	1,977	2,099	* 8,366
Great Southern of India	Mixed.		13,230	1½	1·	½	–	–	305	506	10,390	–	16,201	816	–	17,017	–	–	–	495	13,306	13,801	30,817

EXPENSES.—WORKING AND MAINTENANCE.

Working and maintenance charges.

42. The expense of maintaining and working railways is a most important question in relation to their success. If, as in the case of some of the American lines, they are roughly made with steep gradients and sharp curves, with light rails, imperfect ballast, and wooden bridges, the cost of maintenance will absorb much of the profits. The railways in India do not labour under these disadvantages. They have been constructed substantially. Rails of the best iron, sometimes of steel, and of considerable weight, have been used; the bridges are of masonry and iron, and are executed with the greatest skill. The only part of the construction that has in any way failed is the wooden sleeper, which, on some lines, has not been found to resist the effects of the wet and heat. Iron is, consequently, being largely substituted for wood, and, on the Madras Railway, has already produced a considerable reduction in the cost of maintenance. But while the works have been admirably constructed, and the best materials have been used, it must not be overlooked that they cannot be altogether exempt from the influences of a tropical climate, with its floods and cyclones, and that watchfulness will be necessary to ensure the preservation of the lines in their present condition. With regard to the working expenses, there are two items which, at present, are particularly high on Indian lines, and these are the European establishments and the fuel, both of which, compared with railways in Europe, entail a heavy charge.

Cost of fuel.

As regards the high cost of fuel, however, this does not apply to the Bengal lines, the coal for which is obtained from collieries at Burdwan, Raneegunge, and Kurhurballee. The great advantage of these sources of supply will be understood when it is stated that the price of coal at the pit's mouth to the East Indian Railway is about 10*s.* per ton, while English coal has lately cost the railways in the Bombay and Madras Presidencies from 40*s.* to 70*s.* a ton at their maritime termini. This high price is, at the present time, caused by the rise in freights from this country to India, but the cost, at the most favourable times, will not be less than 40*s.* On some lines wood is used instead of coal, and, with proper precautions against the escape of sparks, answers admirably. On the Madras Railway it is calculated that the cost of wood fuel is less than half that of coal and coke. When some 150,000 or 200,000 tons of fuel are consumed annually, and when from 40*s.* to 60*s.* per ton has to be paid for it, it is time to look round for relief. Australian coal has been tried, with what success has not yet been reported; but from India herself the supply of fuel should ultimately come. By the judicious planting and preservation of forests, and by the development of the mineral resources of Central India, means will, it is hoped, be afforded for rendering her independent of foreign supplies.

Coal exported from England.

43. The following gives the weight and cost of the fuel sent from this country to India last year by the Companies who are at present obliged to obtain supplies from home:—

Railway.	Coal and Coke sent out during 1865.	Cost in England.	Freight, &c.	Average Cost per Ton on arrival in India.
	Tons.	£	£	*s.* *d.*
Great Indian Peninsula -	26,799	24,104	30,557	41 3
Madras - - -	7,638	3,976	10,667	38 4
Bombay and Baroda -	5,864	12,049		41 1
Scinde - - -	1,907	3,814		40 0
Great Southern - -	2,580	1,431	3,471	38 0

Charges for Maintenance and Working.

44. The following statement exhibits the relative proportions per cent. of the various charges for maintenance and working during the last two years:—

Railway.	Maintenance.		Locomotive.		Repairs to Rolling Stock.		Traffic.		Compensation.		Miscellaneous.	
	1864.	1865.	1864.	1865.	1864.	1865.	1864.	1865.	1864.	1865.	1864.	1865.
East Indian - - -	24·49	24·57	36·05	36·58	7·69	7·97	16·03	16·69	·02	—	15·72	13·37
Great Indian Peninsula -	18·61	22·30	31·22	38·14	9·30	5·08	19·55	18·57	15·25	10·13	6·70	6·38
Madras { South-Western -	32·48	29·81	43·37	42·07	1·99	2·51	15·44	16·40	—	—	6·22	9·25
Madras { North-Western -	28·69	—	44·34	52·13	2·35	—	16·16	22·70	·20	—	8·46	8·40
Scinde - - - -	35·91	—	29·41	—	10·06	—	14·59	—	0·85	—	9·18	—
Punjab - - - -	13·19	—	33·36	—	—	—	25·51	—	—	—	27·94	—
Bombay, Baroda, and Central India - -	—	—	—	—	—	—	—	—	—	—	—	—
Eastern Bengal - - -	19·38	19·67	40·7	32·87	—	7·22	23·86	25·13	—	—	16·74	15·41
Calcutta and South-Eastern	22·43	15·87	52·67	36·76	47·84	—	43·09	25·66	—	—	18·29	21·65
Great Southern - -	23·82	24·87	65·	54·19	55·02	—	12·59	12·66	—	—	8·56	8·30
Average of Lines in the United Kingdom - -	18·93	—	27·96	—	8·56	—	28·42	—	1·60	—	14·93	—

Importance of pressing cotton

45. Another very important but simple matter connected with the successful working of the railways is the mode of packing cotton. At present, cotton is generally brought to the railways in the most bulky shape in which it can be put together. Very little attempt is made to compress it, so that a much larger cubical space is required than would be necessary if the same amount were either pressed or half pressed, and considerable risk from fire is incurred. Hitherto the effect has been to diminish the amount of cotton that can be conveyed by railway, to increase its cost, and to involve the Railway Companies in loss for compensation. Everybody is therefore interested in the question,—the producer, the Railway Company, the manufacturer, and the public. It would hardly be within the province of the Railway Companies to establish presses themselves, but they have offered and are ready to afford every facility for the purpose. They have established, also, differential rates for the conveyance of pressed and unpressed cotton, with the view of encouraging the one and discouraging the other, but as yet no improvement in the mode of packing has been produced.

RATES AND FARES.

Rates and fares.

46. There has been a tendency during the past year to increase the rates and fares. They are still, however, low, as compared with European rates. It is hardly possible yet to judge what the established rates of charge for passengers and goods, especially the latter, should be. At present, the traffic on the principal lines is, as I have before explained, restricted by a scarcity of rolling stock. This has partly caused the rise in fares, but when there is a sufficient supply of rolling stock, and a large and well sustained traffic, lower rates may be found to be more profitable than higher. If, however, the traffic goes on increasing in the same ratio as it has done during the last two years, the rates will, in some cases, have to be raised higher than they are now to realize the profits which the railways could command. Considering the question in the abstract, the first point to be ascertained, before fixing charges of this kind, is the cost of conveyance, and then, the charge which, in addition to what is required to cover the cost, will produce the greatest aggregate return; for it should be borne in mind that it is not the high profit upon the unit, but the small profits upon the large numbers or quantity, which should be sought for. Supposing the cost of running a train which should carry 50 tons to be 3*s.* a mile, and only 25 tons at 3*d.* a mile are carried, the profit is only 3*s.* 3*d.*, or 1½*d.* per ton; but supposing the charge to be 2*d.*, and 50 tons are carried, the profit is 5*s.* 4*d.*, or 1¼*d.* per ton. Thus, when the profits upon each ton is more, the aggregate results are less, because the amount conveyed is insufficient to fill the waggons. When the amount is increased by the lower charge, the profit is smaller upon each ton, but (more being carried at the same cost) the profits are greater on the whole. The great aim should be, in the first place, to provide an adequate supply of rolling stock, and then to impose such rates as would bring that stock into constant use. An over-supply, as well as an under-supply, is to be avoided. Both have a tendency to raise rates. If too many carriages and trucks are provided, charges must be put on to cover the cost of those unemployed. If too few are provided, charges would have to be imposed to check the demand for conveyance. The East Indian and the Great Indian Peninsula lines have been in the position of being unable to meet the demand upon them, so that the rates are levied under circumstances which ought to be exceptional. At some of the stations on the East Indian Railway, such was the demand for trucks, that it is supposed bribes were given to secure a preference; and it was proposed by a Committee appointed

to apply a remedy, that the trucks should be put up to auction, ignoring altogether the established rates. This would not have been a proper arrangement, and it was accordingly decided to fix higher charges generally.

Passenger fares.

47. With regard to the passenger fares, the tables given hereafter, exhibiting the number in each class, show that comparatively few people travel in the first and second classes. It appears that 94 per cent. travel in the third, 4·78 travel in the second, and 1·12 in the first class. Various fares and different kinds of carriages have been tried with the view of attracting more to the first and second, but without producing other results. Cheap fares are stronger than caste. The rich murasidar and merchant may be seen travelling in the same carriage with the Coolie labourer who works in his fields and godowns.

Maximum Rates.

48. The following are the fares at present in use. On the Bombay lines the Government have established the principle of fixing maximum rates, within which the Companies are allowed to levy such charges as they may find to be most desirable. The system has worked well, and the other Governments in India will probably deem it expedient to extend it in the course of the present year to the other railways. But whatever the fares may be, a most material point in relation to the profits they produce is the class of goods to which they are applied. On the Great Indian Peninsula Railway, for instance, the transfer of cotton from the 2d to the 4th class has been attended with marked success.

Railway.	Passenger, per Mile.				Goods, per Ton per Mile.				
	1st Class.	2d Class.	3d Class.	4th Class.	1st Class.	2d Class.	3d Class.	4th Class.	5th Class.
	d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
East Indian	2¼	1	¼	—	1	1¾	2¼	3⅓	7
Great Indian Peninsula	1¾	1	¼	—	1⅓	2¼	3	4½	6¾
Madras	*2¼	¾	¼	—	1½	1⅔	2	3	4½
Bombay and Baroda	1¾	1	½	—	1	1½	2	3¼	4½
Scinde	1¼	¾	⅜	—	1¼	1⅔	3¼	—	—
Punjab	1¾	1	½	—	3⅜	2½	1½	1	—
Eastern Bengal	1½	¾	½	¼	1	1¾	2¼	3½	7
Calcutta and South-Eastern	1½	¾	¼	—	1	1¾	2¼	3½	7
Great Southern	1½	¾	½	—	1½	—	—	—	—

* The fares for the night trains on the Madras Railway are about 20 per cent. higher.

GUARANTEED INTEREST.

49. The following statement shows the amount that has been advanced by the Government to the several Railway Companies on account of guaranteed interest during the past year, together with the aggregate sum which has been paid on the same account in previous years.

GUARANTEED INTEREST, INDIAN RAILWAYS.

Statement of the Total Amount of Interest advanced to each of the under-mentioned Indian Railway Companies, to 31st December 1865.

Company.	Interest paid up to 31st December 1864.	Interest paid during 1865.						Total Amount paid up to end of 1865.
		England.		India.		Total.		
	£ s. d.	£ s. d.		£ s. d.		£ s. d.		£ s. d.
East Indian	6,257,558 0 9	1,149,249 1 1		12,563 15 3		1,161,812 16 4		7,419,370 17 1
Great Indian Peninsula	*2,860,901 11 4	590,668 9 5		18,564 11 7		609,233 0 10		3,470,134 12 2
Madras	1,825,482 4 10	367,326 3 10		—		367,326 3 10		2,192,808 8 8
Scinde	*436,189 2 6	95,691 8 2		1,070 13 4		96,762 1 6		532,951 4 0
Punjab	323,482 1 8	95,786 1 9		418 2 10		96,204 4 7		419,686 6 3
Delhi	90,260 17 2	52,109 7 10		258 1 0		52,367 8 10		142,628 6 0
Indus Steam Flotilla	*79,334 15 2	18,695 5 0		—		18,695 5 0		98,030 0 2
Bombay, Baroda, and Central India	812,000 15 5	250,967 16 9		1,083 2 4		252,050 19 1		1,064,051 14 6
Eastern Bengal	277,774 7 1	78,103 12 9		338 0 0		78,441 12 9		356,215 19 10
Calcutta and South-Eastern	75,618 13 4	19,813 0 5		578 5 3		20,391 5 8		96,009 19 0
Great Southern of India	130,576 7 7	43,391 18 2		—		43,391 18 2		173,968 5 9
Total	£13,169,178 16 10	2,761,802 5 0		34,874 11 7		2,796,676 16 7		15,965,855 13 5

* Amended Amounts.

Accountant General's Department,
18th April 1866.

(Signed) W. G. GOODLIFFE,
Accountant General.

50. It will thus be seen that a sum of very nearly 16,000,000*l.* has been paid by the Government during the last fifteen years to the Railway Companies as interest on the capital raised by them. Of this sum, about 4,900,000*l.* has been received back by the Government from the earnings of the Companies. The sum paid last year on account of the guaranteed interest was 2,786,677*l.* as compared with 2,567,744*l.* in 1864. The receipts from the railway traffic, which in 1864 amounted to about 840,704*l.*, last year rose to 1,341,550*l.*, reducing the net payment by Government on account of the guarantee from 1,727,040*l.* to 1,455,122*l.* This improvement furnishes ground for the hope that gradually the two amounts will be balanced, and that a commencement will then be made by the Companies in paying back past years' interest, and in declaring a larger dividend than the guaranteed interest of 5 per cent. to the shareholders.

EAST INDIAN RAILWAY.

East Indian Railway.

51. The year 1865 will be notable in the history of this railway for the opening of the Jumna bridge at Allahabad, which thus completes 1,017 miles of continuous line, extending from the right bank of the Hooghly at Calcutta to the left bank of the Jumna at Delhi. The bridge in question is about two-thirds of a mile in length, and consists of 14 spans of 205 feet each, constructed with iron girders made from the designs of Messrs. Rendel, the Consulting Engineers of the Company. "The skilful and long continued exertions" of the Chief Engineer, Mr. Sibley, and of his assistants, Messrs. Collett and Dunn, who were employed on this work, were highly commended by the Government and the Railway Board.

Jubbulpore Line.

52. The works on the Jubbulpore line of the Company's undertaking have been progressing satisfactorily, and will probably be ready for opening in the course of the next year.

Chord Line.

53. The construction of the chord line, extending from the present terminus of the Raneegunge branch at Barrakur to Luckieserai on the main line, having been determined on, tenders were invited for its execution, and that of Messrs. Brassey and Wythes, who have already constructed many lines of railway in India in a satisfactory manner, was accepted. It is to be completed in 1871. It will be remembered that the object of this line, the new part of which is about 124 miles in length, was to shorten the distance between Calcutta and all places west of Luckieserai by about 70 miles; to make the valuable coal mines of Kurhurballee in its proximity available for the railway, whereby it was estimated a large saving in the cost of fuel would be effected, and to avoid the necessity of doubling the present main, or, as it is now termed, loop line between Burdwan and Patna. It is estimated that the line with a double track will cost about 2,000,000*l.* The land has been staked out and will cost the Government about 50,000*l.* This amount would have been larger had it not been for the liberality of Maharaja Tye Mungul Singh and his co-sharer Rajah Mohendernarain, who have given 17 miles of the land required for the line.

Bridge and Central Terminus at Calcutta.

54. The question of extending the Calcutta terminus of the line from the right bank of the Hooghly at Howrah into the city by means of a bridge, and of forming a central terminus there for the three railways which start from thence, has been discussed, but the shareholders of this Company appeared unwilling in December last to undertake the work. While, however, the river at Calcutta is uncrossed by the railway the work cannot but be regarded as incomplete.

Capital Expenditure.

55. The outlay on the main line of this railway, including a large sum invested in stores, now amounts to 22,500,000*l.*, and the necessity for doubling further portions will involve further expenditure. It is some satisfaction to feel that, while the cost has been larger than was estimated, the receipts will be also greater. The separation between the Bengal and the North-Western Divisions is no longer preserved, and the traffic is conducted under one central management. I have before observed that it has been alleged that the traffic has been cramped for want of rolling stock, and that some of the stations have been choked with goods waiting to be carried. It would appear that those who were best capable of judging have been taken by surprise at the enormous amount of traffic which the railway could command, were it properly equipped and efficiently managed. Although the actual traffic shows a large increase, this is not what it might have been had arrangements for carrying more been made. The great

East Indian Railway.

demand for conveyances at certain places unfortunately led to undue preference, and, it is apprehended, corruption; but an end has been now put to these practices, and, for the future, a better system of management will prevail.

STATEMENT No. I.

COMPARATIVE STATEMENT, showing the Amount of Receipts from Passengers and Goods, the Working Expenses, and the Net Profits, during the Years ending 30th June 1861, 1862, 1863, 1864, and 1865.

Period.	Mean Number of Miles open.	Receipts from Conveyance of			Total Receipts.	Working Expenses.			Net Profits.
		Passengers.	Goods.	Miscellaneous.		Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£	£
Half-year ending 31st December 1864 -	937	246,933	333,665	39,830	620,428	242,916	79,496	322,412	298,016
Ditto, 30th June 1865 -	1,126	278,736	500,715	42,225	821,676	262,447	85,146	347,593	474,083
Year ending 30th June 1865 - - -	1,032	525,669	834,380	82,055	1,442,104	505,363	164,642	670,005	772,099
Year ending 30th June 1864 - - -	979	417,747	640,529	61,206	1,119,482	469,984	158,771	629,755	490,727
Year ending 30th June 1863 - - -	797	313,469	465,776	21,307	800,552	315,784	103,769	419,553	380,999
Year ending 30th June 1862 - - -	556	210,375	323,159	19,671	553,205	173,161	99,048	272,209	280,996
Year ending 30th June 1861 - - -	340	155,994	235,175	17,275	407,444	—	—	192,895	214,549

STATEMENT No. II.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1861	47·	37·50	62·50
" " 1862	48·26	17·86	62·34
" " 1863	52·70	39·10	60·90
" " 1864	55·2	37·45	62·53
" " 1865	47·2	36·4	64·5

STATEMENT No. III.

Period.	Number of Miles open.	Number of Passengers.				Total Number of Passengers.
		1st Class.	2d Class.	Intermediate Class.	3d Class.	
Year ending 30th June 1861	340	22,259	74,455	—	1,780,539	1,877,253
" " 1862	556	26,294	83,500	—	2,170,241	2,280,035
" " 1863	797	32,435	98,065	—	2,773,845	2,902,345
" " 1864	979	32,809	83,646	—	3,541,412	3,657,867
" " 1865	1,032	32,275	82,796	286,119	3,733,755	4,134,945

GREAT INDIAN PENINSULA RAILWAY.

Great Indian Peninsula Railway.

56. The improvement in the condition of this undertaking during the past year has been conspicuous. In February 1865, the works on the Thull Ghât incline were completed, and the opening of this important link in the communication between Bombay and the interior gave an immediate impulse to the traffic, and greatly reduced the expenses of working it. This advantage being followed up by an energetic management, and by a judicious regulation of the rates and fares, very favourable results have been produced.

57. Altogether, about 146 miles have been added to the length of open lines in this Company's system. Unexpected delay has occurred in the prosecution of some of the works on the line still under construction, but satisfactory progress is now being made, and it is possible that the north-east line to Jubbulpore and to Nagpore may be opened in the course of next year. Two contracts have during

the year been entered into for the construction of the sections on the south-east line between Sholapore and Kulburga, and between Kulburga and Raichore, at which latter place it joins the line from Madras. This extension is to be completed by December 1868. In addition to these works, it is found that a greater length than was contemplated will have to be doubled, and already 220 miles have been put in hand. A double line of 276 miles, from Bombay to Bhosawul, the point of junction of the main north-east line and the Nagpore branch, will thus be formed, as well as one of 79 miles, from Bombay to Lanowlie, at the top of the Bhore Ghât, on the south-east line. The Company has suffered in the same way as the East Indian, for want of rolling stock. Some of the stations have been choked with the traffic, and much delay has been caused in the conveyance of goods. All this time, too, the traffic on the ordinary roads had rather increased than diminished.

Comparing the results of the year ending the 30th June 1865 with the previous year,—

	1864.	1865.
The number of passengers were respectively -	3,510,274 -	- 3,413,116
	Tons.	Tons.
The tonnage in goods and minerals - -	410,756 -	- 554,753
The gross receipts - - - -	£532,877 -	- £870,296
The net ditto - - - -	154,817 -	- 314,626

58. The north-east line of this Company's system is the great cotton railway for India, and the Company are much interested in the question I have before referred to, of improving the system of packing that commodity. During the last five years, upwards of 30,000*l.* has been paid by the Company as compensation for losses by fire. These fires, which were chiefly caused by sparks from the engines, took place while the cotton was in transit, and were, in great measure, due to its being so loosely packed. A differential charge in favour of pressed cotton did not have the desired effect, for hardly 100 bales of it passed into Bombay during the season. Carriage of cotton.

59. There is much in the present condition of the undertaking to afford encouragement for the future. Its cost will not be excessive, amounting, on an average, to about 13,000*l.* a mile for a single, and 16,000*l.* for a double line, and its traffic will be enormous, not only in articles of export and import, but in grain and other supplies for the 1,000,000 inhabitants of the city of Bombay. A good example of energetic management has been set by the Company's present able Agent, Captain Sherard Osborn, R.N.; and I believe all that is necessary to ensure the economical working of the line, and consequent success, is the continuance of a firm and judicious administration. Prospects.

60. The following Tables contain the particulars of the traffic of the past and present years:—

STATEMENT No. I.

STATEMENT showing the Amount of Receipts from Passengers and Goods, and of Working Expenses, during the Years ending 30th June 1861, 1862, 1863, 1864, and 1865. Revenue Returns.

Period.	Mean Number of Miles open.	Receipts.			Working Expenses.			Net Profits.
		Passengers.	Goods.	Total.	Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£
Half-year ending 31st December 1864 - -	565	105,692	207,483	313,175	178,189	51,272	229,461	83,714
Half-year ending 30th June 1865 - - - -	23	135,777	421,344	557,121	253,553	72,656	326,209	230,912
Year ending 30th June 1865	588	241,469	628,827	870,296	431,742	123,928	555,670	314,626
" " 1864	553	176,016	356,861	532,877	307,353	70,707	378,060	154,817
" " 1863	484	148,689	238,938	387,627	—	—	244,579	143,048
" " 1862	416	123,143	156,115	279,258	128,470	64,220	192,690	86,568
" " 1861	320	105,607	123,182	228,789	135,042	23,369	158,911	69,778

STATEMENT No. II

Great Indian Peninsula Railway.

STATEMENT showing the Proportion of Working Expenses to Gross Receipts, and the Proportion of Receipts from Passengers and Goods.

Period.	Proportion per cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1861	69·5	46·2	53·8
" " 1862	68·7	44·1	55·9
" " 1863	62·9	38·36	61·64
" " 1864	70·9	30·03	67·7
" " 1865	59·08	27·7	72·2

STATEMENT No. III.

STATEMENT showing the Number of Passengers conveyed during the Years ending 30th June, 1861, 1862, 1863, 1864. and 1865.

Period.	Number of Miles open.	Number of Passengers.				Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	4th Class.	
Year ending 30th June 1861	320	20,121	183,522	855,126	955,172	2,013,941
" " 1862	416	22,448	147,883	1,996,673	342,958½*	2,509,962
" " 1863	484	26,201	157,434	2,754,416	—	2,938,051
" " 1864	553	36,421	247,610	3,126,243	—	3,510,274
" " 1865	595	47,668	306,923½	3,058,524½	—	3,413,116

* This Class was discontinued in October 1861.

MADRAS RAILWAY.

Madras Railway.

61. The progress made both in the construction of the unfinished portion of this undertaking, and in the development of the traffic on that part which is opened, has been very satisfactory. Forty miles have been added to its open length, which now amounts to 611 miles, and the works on the north-west line, beyond Cuddapah, encourage the expectation that about 30 miles more will be finished by June next. The gradual and steady increase which has taken place in the profits of the undertaking is the best criterion of its sound condition, as well as the most satisfactory security for continued improvement. Its economical construction, the average cost per mile being estimated at about 12,000*l.*, is also an important element of success.

Iron Sleepers.

62. The superiority, under certain circumstances, of iron over wooden sleepers has been exemplified on this line. The whole of the wooden sleepers on the south-west line had to be removed, in consequence of their decayed condition, and they are being replaced by iron. The annual cost of maintaining that portion of the line which has been laid with iron sleepers is less than half that on which wooden sleepers were employed.

63. The following are the results of the traffic on the north-west and south-west lines for the two years ending the 31st December 1864 and 1865:—

	1864.	1865.
The number of passengers were - -	1,474,710 -	- 1,769,902*
The tonnage in goods, exclusive of railway materials, was - -	Tons. 249,386 -	Tons. - 296,397
The gross receipts were - -	£312,496 -	- 405,006
The net receipts were - -	156,377 -	- 219,452

* Exclusive of the passengers on the north-west line, which last year amounted to 177,336.

64. The subjoined tables furnish particulars of the traffic since the opening of the lines:—

Statement No. I.

Showing the Amount of Receipts from Passengers, Goods, &c., and of Working Expenses, during the Years ending 30th June 1861, 1862, 1863, 1864, and 1865.

Period.	No. of Miles open.	Receipts.			Working Expenses.			Net Receipts.
		Passengers.	Goods, &c.	Total.	Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£
South-West Line:								
Half-year ending 31st Dec. 1864	478	66,966	90,367	157,343	54,428	26,197	80,625	76,718
North-west Line:								
Half-year ending 31st Dec. 1864	60	4,623	7,598	12,221	3,746	1,507	5,253	6,968
		71,599	97,965	169,564	58,174	27,704	85,878	83,686
South-West Line:								
Half-year ending 30th June 1865	492	71,434	93,570	165,004	60,746	24,588	85,334	79,670
North-West Line:								
Half-year ending 30th June 1865	79	6,416	8,472	14,888	5,218	1,389	6,607	8,281
South-West and North-West Lines:		77,850	102,042	179,892	65,964	25,977	91,941	87,951
Year ending 30th June 1865	555	149,449	200,007	349,456	124,138	53,681	177,819	171.637
" " 1864	448	113,505	157,131	270,636	90,896	60,742	151,638	118,998
" " 1863	444	95,992	98,127	194,119	81,642	60,453	142,095	52,024
" " 1862	332	63,222	64,393	127,615	60,404	34,492	94,896	32,719
" " 1861	201	45,260	37,604	82,864	43,443	19,743	63,186	19,678

Statement No. II.

Showing the Proportion of Working Expenses to Gross Receipts, and the Proportion of Receipts from Passengers and Goods.

Period.	Proportion per Cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
South-West Line:			
Year ending 30th June 1861	76·5	54·6	45·4
" " 1862	73·5	49·2	50·8
" " 1863	73·6	49·3	50·7
" " 1864	56·8	41·4	58·6
" " 1865	54·4	42·8	57·2

Statement No. III.

Showing the Number of Passengers conveyed during the Years ending 30th June 1861, 1862, 1863, 1864, and 1865.

Period.	Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
South-west Line:					
Year ending 30th June 1861	184	2,774	10,428	969,287	982,489
" " 1862	302	8,626	47,695	1,025,218	1,081,539
" " 1863	407	9,788	71,966	974,558	1,056,312
" " 1864	407	8,648	80,294	1,093,674	1,182,616
" " 1865	484	10,424	110,890	1,287,943	1,409,257
North-West Line:*					
Year ending 30th June 1863	37	532	3,050	132,801	136,381
" " 1864	41	352	2,986	172,998	177,336
" " 1865	70	402	3,145	215,409	219,036

* The details of the different classes of Passengers carried during the year ending 30th June 1865, on the North-west Line, have not reached this office.

BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY.

Bombay, Baroda, and Central India Railway.

65. The past year's operations of this Company do not furnish a good criterion of the position of the railway as a commercial undertaking. It was open throughout in November 1864, but passengers only were conveyed on it till November 1865, and although the conveyance of goods then commenced, the break at the Nerbudda river, which had been caused by the damage done to the bridge by the violence of the floods in the monsoon of the previous year, very much interfered with the traffic. The bridge was reopened in May last, and the effects on the traffic have been apparent.

Bridges.

66. The competition of the boats along the coast is more serious than was expected, and a fresh adjustment of the rates of conveyance will probably be necessary to secure more of the sea-borne traffic. In order to avoid the risk of a similar catastrophe to that which happened last year, the necessary measures have been taken for strengthening the piers of the iron bridges over the Nerbudda, the Taptee, and the Mhye rivers. This operation, together with the completion of the two or three miles of the railway through Bombay, and probably the doubling of portions of the line, will involve additional outlay. A very large traffic will be required to produce a profit equal to the amount paid for guaranteed interest. If, however, the present traffic of about 8,000*l.* a week were doubled, and the working expenses were reduced to 50 per cent. of the receipts, this desirable end would be attained; and I see no reason why both these results should not be produced.

STATEMENT No. I.

Showing the Amount of Receipts from Passengers and Goods, and the Expenses of Working, for the Years ending 30th June 1862, 1863, 1864, and 1865.

Period.	Number of Miles.	Receipts.			Expenses.			Net Receipts.
		Passengers.	Goods, &c.	Total.	Working.	Maintenance.	Total.	
		£	£	£	£	£	£	£
Half-year ending December 1864	306½	47,158	16,233	63,391	19,740	8,818	28,558	33,974
Half-year ending June 1865	306¼	107,472	7,688	135,161	63,377	31,430	94,807	75,187
Year ending June 1865	306	154,630	41,805	198,552	83,117	40,248	123,365	109,161
" " 1864	185½	82,922	58,857	141,779	*	*	*	*
" " 1863	168	63,097	39,821	102,918	32,361	8,236	40,597	62,331
" " 1862	130	34,342	12,591	46,933	22,327	3,828	26,155	20,778

* No Revenue Account having yet been received from India for this year, the expenses cannot be given. The receipts are taken from the Weekly Traffic Returns.

STATEMENT No. II.

Showing the Proportion of Working Expenses to Gross Receipts, and the Proportion received from Passengers and Goods.

Period.	Proportion per cent. of Working Expenses to Gross Receipts.	Proportion of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1862	50·14	66·40	33·60
" " 1863	41·18	59·60	40·40
" " 1864	—	58·48	41·52
" " 1865	—	78·7	21·3

STATEMENT No. III.

Showing Number of Passengers conveyed during the Years ending 30th June 1862, 1863, and 1864.

Period.	Average Number of Miles open.	Number of Passengers.			Total Number of Passengers.
		1st Class.	2d Class.	3d Class.	
Year ending 30th June 1862 -	130	2,063	10,980	838,285	851,328
" " 1863 -	168	2,713	11,785	803,572	818,070
" " 1864 -	185¼	4,149	15,844	931,186	951,179
" " 1865 -	306	10,266	44,510	1,264,092	1,318,868

STATEMENT No. IV.

Showing the Number of Passengers per Mile open and the Number per Mile in each Class.

Period.	Number of Passengers conveyed per Mile.	Number conveyed per Mile.		
		1st Class.	2d Class.	3d Class.
Year ending 30th June 1862 -	6,548	16	84	6,448
" " 1863 -	4,869	16	70	4,783
" " 1864 -	5,134	22	86	5,026
" " 1865	4,310	34	145	4,131

SCINDE RAILWAY.

67. The traffic on this line has been injuriously affected during the past year by the unsettled state of the trade of that part of India. It does not compare favourably with the previous year on this account. An improvement has taken place since the commencement of the present year, and if a reduction in the expense of maintaining and working the line were effected, satisfactory results might be produced.

STATEMENT No. I.

Showing the Amount of Receipts and Working Expenses for the Years ending 30th June 1862, 1863, 1864, and 1865.

Period.	Number of Miles open.	Receipts from Conveyance of		Total Receipts.	Working Expenses.	Net Receipts.
		Passengers.	Merchandise, &c.		Working and Maintenance.	
		£	£	£	£	£
Year ending 30th June 1862 -	105	10,045	30,028	40,073	36,631	5,442
" " 1863 -	105	13,196	76,717	89,913	70,919	18,994
" " 1864 -	105	14,558	84,253	98,811	92,154	6,657
" " 1865 -	105	14,940	67,553	82,493	78,986	3,507

Scinde Railway.

STATEMENT No. II.

Showing the Proportion of Working Expenses to the Gross Receipts, and the Proportion of Receipts from Passengers and Goods.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1862	86·41	25·06	74·96
„ „ 1863	78·86	14·67	85·33
„ „ 1864	93·26	14·73	85·26
„ „ 1865	95·7	18·1	81·8

STATEMENT No. III.

Showing the Number of Passengers conveyed, &c.

Period.	Number of Miles open.	1st Class.	2d Class.	3d Class.	Total Number of Passengers conveyed.
Year ending 30th June 1862 -	105	491	5,140	84,494	90,125
„ „ 1863 -	105	457	7,143	117,489	125,089
„ „ 1864 -	105	—	—	—	—
„ „ 1865 -	105	1,738	5,015	105,294	112,047

PUNJAUB RAILWAY.

Punjab Railway.

68. The whole of this line, from Umritsur to Mooltan and Shershah, was opened for public traffic in April 1865, thus increasing the length open from 43 to 253 miles. The traffic has been conducted regularly, but, although it has increased, it does not appear to be large at present. The line will open a country capable of great improvement in agricultural produce, but, with the exception of Lahore, Umritsur, and Mooltan, it does not connect large and populous towns. It may therefore require some little time to develope the traffic thoroughly, and to render the line accessible to the neighbouring districts by means of roads to the stations. During the present year, however, a steady increase has taken place, both in the passenger and goods traffic, and additional rolling stock is already required.

69. The following table furnishes particulars in regard to the traffic for the years ending 30th June 1863, 1864, and 1865:—

STATEMENT No. I.

Period.	Miles open.	Receipts.		Total.	Expenses.	Net Receipts.	Number of Passengers.			
		Passengers.	Merchandise.				1st Class.	2d Class.	3d Class and Military.	Total.
		£	£	£	£	£				
Year ending 30th June 1863 - - -	45	12,193	522	12,715	8,343	4,372	2,286	4,007	350,533	356,826
Year ending 30th June 1864 - - -	45	16,484	682	17,166	12,403	4,763	4,573	10,775	410,571	425,919
Year ending 30th June 1865 - - -	Mean. 84	15,571	9,679	25,250	19,241	6,009	4,320	10,044	421,727	436,091

STATEMENT No. II.

Punjab Railway.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per Cent. of Receipts from	
		Passengers.	Goods.
Year ending 30th June 1863 -	65·61	95·89	4·10
„ „ 1864 -	72·25	96·02	3·97
„ „ 1865 -	76·20	61·6	38·4

INDUS STEAM FLOTILLA.

Indus Steam Flotilla.

70. A regular bi-monthly communication between Kotree and Mooltan has been kept up by the steamers of the Flotilla during the year, and no loss or accident has occurred. The fleet now consists of eight steamers for passengers and cargo, and three tug-steamers for cargoes, with 16 accommodation and other barges. Another tug-steamer, built in this country, is now being put up at Keeamaree, and four large steamers are now in the hands of Messrs. Laird, Messrs. Napier, and Messrs. Samuda, and will be ready for transmission to Scinde in the course of this year.

71. The earnings of the Flotilla, as in the case of the Scinde Railway, have not equalled those of the previous year; the gross receipts having been 73,959*l.*, against 87,203*l.*, and the net profits only 16,460*l.*, compared with 34,653*l.*

INDUS FLOTILLA.

Indus Steam Flotilla.	Receipts.		Total.	Expenses.	Net Receipts.
	Passengers.	Goods.			
	£	£	£	£	£
Year ending 30th June 1864 -	7,577	79,626	87,203	52,550	34,653
„ „ 1865 -	5,819	68,139	73,958	57,409	16,549

DELHI RAILWAY.

Delhi Railway.

72. Satisfactory progress has been made with the works on this line, which are reported to have been well executed. It is believed that 30 miles of the lower portion may be opened for traffic before the end of this year. This would connect Delhi with Meerut, and would be an important section to begin with. It is also possible that, at the Umritsir end, the line from that place to the River Beas, a distance of 27 miles, may be completed about the same time. The Board have taken measures for providing the locomotives and rolling stock requisite for working these sections.

EASTERN BENGAL RAILWAY.

Eastern Bengal Railway.

73. It has been determined during the past year to extend this line from its present terminus at Kooshtea to Goalundo, a distance of 45 miles. Its new terminus will thus be placed on the confluence of the rivers Ganges and Barampootra. The object of the extension was to increase the benefits of the existing line by intercepting the traffic coming down these rivers to Calcutta. The works, which include a large bridge, are to be executed under the superintendence of the Company's Engineer, Mr. Leslie, and will, it is estimated be completed in about three years.

Eastern Bengal Railway.

74. The traffic on the open line has improved in a satisfactory manner, and its prospects are altogether encouraging. The Company has this Session obtained an Act which confers upon them powers to run steamers in communication with the railway, which, it is expected, will be for the benefit of the public and for the improvement of their own property.

75. The traffic for the last two years has been as follows:—

	1864.	1865.
Number of passengers conveyed - -	1,124,570	1,155,291
	Tons.	Tons.
Tonnage of goods - - - -	47,071	88,054
	£	£
Gross receipts - - - -	88,548	112,840
Net receipts - - - -	41,025	58,746

Statement No. I.

Showing the Amount of Receipts from Passengers, Goods, &c., and of Expenses during the Years ending 30th June 1863, 1864, and 1865. The whole (110 miles) open.

Period.	Receipts from				Expenses.			Net Receipts.
	Passengers.	Goods.	Miscelaneous.	Total.	Working.	Maintenance.	Total.	
	£	£	£	£	£	£	£	£
Half-year ending 30th June 1863 - -	24,041	8,802	905	33,748	17,885	—	17,885	15,863
Ditto, 31st Dec. 1863 -	26,887	13,758	1,958	42,603	19,819	2,309	22,128	20,475
Ditto, 30th June 1864 -	35,464	10,404	77	45,945	20,355	5,040	25,395	20,550
Total for year ending June 1864 - -	62,351	24,162	2,035	88,548	40,274	7,349	47,623	41,025
Year ending June 1865	62,158	43,959	6,723	112,840	43,390	10,704	54,094	58,746

Statement No. II.

Showing Proportion of Expenses to Receipts, and of Receipts from Passengers and Goods.

Period.	Percentage of Working Expenses to Gross Receipts.	Proportion per Cent. of Receipts from		
		Passengers.	Goods.	Miscellaneous.
Year ending 30th June 1863 -	48·38	71·24	26·08	2·68
" " 1864 -	53·80	70·41	27·28	2·2
" " 1865 -	48·77	55·08	38·9	6·02

Statement No. III.

Showing the Number of Passengers conveyed.

Period.	Miles open.	Number of Passengers conveyed.				
		1st Class.	2d Class.	3d Class.	4th Class.	Total.
Year ending 30th June 1863	110	20,761	20,786	499,758	—	541,305
" " 1864	110	40,461	51,653½	987,481	44,615	1,124,570½
" " 1865	110	41,884½	46,330	310,493½	756,583	1,155,291

CALCUTTA AND SOUTH-EASTERN RAILWAY.

Calcutta and South-Eastern Railway.

76. The results of the traffic on this line still continue to show a small deficit. I was in hopes that the period of deficiencies would have passed away last half year, and this would probably have been the case had not the fares been lowered. The causes for the past results have continued with the progress of the undertaking; but now that Canning is improving as a town, under the auspices of the Land Company, and is becoming more salubrious, in consequence of the clearing away of jungle and the drainage of the neighbourhood, and now that the port is also more known, and consequently more used, the shipping will increase, and the railway receipts will improve.

STATEMENT.

Period.	Receipts from		Total Receipts.	Working Expenses.	Deficiency.
	Passengers.	Goods.			
	£	£	£	£	£
Half-year ending 30th June 1862 -	1,224	271	1,545	1,739	194
Year ending 30th June 1863 - -	2,585	259	2,844	3,418	574
„ „ 1864 - -	4,630	1,915	6,559	8,380	1,821
„ „ 1865 - -	5,782	2,585	8,367	11,412	3,045

GREAT SOUTHERN OF INDIA RAILWAY.

Great Southern of India Railway.

77. The works on the Errode Extension of this line, by which a junction will be formed with the Madras Railway, have been progressing satisfactorily, and it is expected that the whole will be completed in the spring of next year. A length of 47 out of the 87 miles may be opened this year. The traffic has increased gradually, but it is yet small to what it will, I trust, ultimately become. Upon the completion of the Extension Line, a more rapid improvement will probably take place. The results of the traffic are given below:—

STATEMENT I.

Showing the Amount of Receipts from Passengers and Goods, and of the Working Expenses, &c.

Period.	Miles open.	Receipts from			Expenses of Working and Maintenance.	Net Receipts.	Proportion per Cent. of Expenses to Receipts.
		Passengers.	Goods, &c.	Total.			
		£	£	£	£	£	
Year ending 30th June 1863 - - -	79	15,530	10,917	26,447	12,251	14,196	46·32
Ditto, 30th June 1864 -	79	16,158	11,182	27,340	13,623	13,717	49·82
„ „ 1865 -	79	19,127	16,109	35,236	17,451	17,785	49·5

STATEMENT II.

Statement showing the Number of Passengers conveyed.

Period.	Number of Miles open.	Number of Passengers.			
		1st Class.	2d Class.	3d Class.	Total.
Year ending 31st December 1863 -	79	1,537	8,533	308,882	318,882
„ „ 1864 -	79	1,356	3,968	293,921	299,245
„ „ 1865 -	79	1,157	4,408	387,725	393,290

SUMMARY.

Summary.

78. The facts which have appeared in the foregoing statements may be briefly summed up as follows:—

The present sanctioned system of guaranteed Railways comprises a length of nearly 5,000 miles, of which about two-thirds have been finished. One-third of the whole will probably have to be made with a double line, within the next five or six years, before which time the 4,944 now in course of construction will be opened.

It is estimated that this system will cost about 81,000,000*l.*, of which sum 60,860,000*l.* had been raised, and 60,645,000*l.* had been expended on the 1st May 1866.

The expenditure in this country has amounted to about 22,000,000*l.*; in India, to 38,600,000*l.* Materials to the value of 17,622,172*l.*, and weighing about 2,883,635 tons, have been sent from hence.

The proprietors of Indian railway stock and debentures now number 39,466, of whom 2,933 have been added during the past year.

The gross receipts during the year ending June 1865 were 3,122,480*l.*, as compared with 2,303,288*l.* in the previous year.

The working expenses 1,565,437*l.* as against 1,322,656*l.*

The net profits were in 1863–64 840,704*l.*, in 1864–65 1,341,550*l.*

The receipts from goods increased from 1,334,951*l.* to 1,844,904*l.*

The number of passengers were in 1863–64 11,631,683, in 1864–65 about 12,500,000.

Future prospects.

79. So much for the past. With respect to the future, it cannot but be seen that there is much in the present condition of these undertakings to encourage the hope that success and prosperity are before them. The chief requisites to ensure these results are skill and energy, guided by sound principles of management. Each railway must necessarily, to a certain extent, be regulated according to its own condition and circumstances. But there are certain leading principles upon which the general administration of the railway system in India should be carried on, and these may be expressed in two words, unity and uniformity. A unity of organization should run through the whole. Each undertaking should be regarded as a part of the entire system. The administrative and executive officers of the different Companies should work in unison, acting together for the public advantage and for the benefit of the concerns under their management. If also an unity of interest in the success of the undertakings could be established between the employer and the employed, by allowing the remuneration of the chief officers engaged on the lines to be in some measure regulated by the amount of profits when they pass a certain point, an additional impulse might be given to good and economical management. The principle of uniformity should be applied not only to certain points of construction, such as the gauge, the bridge openings, the space between tracks, &c., but also to the weights and measures used on the different lines, to the mode of keeping and auditing accounts, and, as far as practicable, to the rates for passengers and goods and telegraph messages. Uniformity and simplicity might also with advantage regulate the control which it is the right and duty of Government to exercise under the contracts. General rules and regulations, and a tariff of maximum charges, should be established to ensure the proper management of the railways and the protection of the public, but the Government might be relieved from interference with details, the responsibility of working out the arrangements decided upon being left to those who are selected on account of their peculiar qualifications to direct the affairs of the various departments.

Principles of administation.

80. If principles such as these are applied to the management of the Railways which have been undertaken under the guarantee system, and if energy and zeal mark the conduct of those who are entrusted with their administration, that system will soon cease to impose an annual burden upon the revenues of India.

I have the honour to be,

My Lord,

Your Lordship's very obedient, humble Servant,

JULAND DANVERS.

APPENDIX.

No. 1.

FORM of DEBENTURE CONTRACT between the Secretary of State for India, and an Indian Railway Company.

After the preamble:—

Now this Indenture witnesseth, that in consideration of the premises, the Secretary of State in Council doth hereby (so far as the covenants and agreements herein-after contained are to be observed and performed on the part of the Secretary of State in Council for the time being) covenant with the said Railway Company and their successors. And the said Railway Company do hereby, for themselves and their successors, (so far as the covenants and agreements herein-after contained are to be observed and performed by them) covenant with the Secretary of State in Council in manner following; that is to say,—

1. That the Secretary of State in Council shall and will, as often as and when the interest at the rate of five per cent. per annum in respect of such of the debentures representing the said sum of pounds, or any part thereof, as shall not previously to the time of payment of interest have been exchanged for stock, according to the terms of the said debentures, shall become due, duly pay out of the revenues of India into the Bank, or other the bankers for the time being of the said Company, to an account called "The Railway Debenture Account," the aggregate amount of such interest, as a fund to meet and provide for the payment of such interest, and shall and will, on the day of , being the day preceding the day named in the said debentures for the payment of the principal sums thereby secured, duly pay out of the revenues of India to the same account the amount of the principal sums payable on such of the said debentures as shall not previously to such day have been renewed, so as to postpone the time of payment, or have been exchanged or delivered up in order to be exchanged for stock, as a fund to meet and provide for the payment of such principal sums; and shall and will, on the day of being the day preceding the day named in the said debentures for the payment of the principal sums thereby secured, in case such payment shall be postponed, according to the terms of such debentures, duly pay out of the revenues of India to the same account the amount of the principal sums payable on such of the said debentures as shall have been renewed as aforesaid, and shall not previously to such last-mentioned day have been exchanged for stock, as a fund to meet and provide for the payment of the said last-mentioned principal sums, and the moneys to be paid to the said account under the terms of this clause, shall be applied to the payment of the interest and principal accordingly: And that, notwithstanding anything contained in the said debentures, the said Railway Company shall not be subject or liable to any action or suit at law or in equity upon or by virtue of such debentures, but that the Secretary of State in Council shall and will, at all times hereafter (the costs and charges being defrayed out of the revenues of India), well and sufficiently protect, save harmless, and keep indemnified the said Railway Company, and their lands, tenements, goods, chattels, and effects whatsoever, of, from, and against all actions, suits, losses, costs, charges, damages, and expenses whatsoever, which they shall or may suffer, sustain, expend, or be put unto, or which shall or may be commenced, instituted, sued, or prosecuted against them by reason or in consequence of the said debentures or any of them.

2. That, upon the proprietor of any of the said debentures availing himself of the option given to him under the terms of his debenture, and exchanging such debenture for capital stock of the Company to the same amount, the nominal amount of such stock shall be deemed to be part of the capital of the Company, and the Secretary of State in Council shall, during the then residue of the said determinable term of years from the day of , pay out of the revenues of India to the said Railway Company in London half-yearly, on the day of and the day of in every year, interest at the rate of five per cent. per annum on the capital sum represented by the debentures which shall have been so exchanged, such interest being considered, in the first instance, as running from the last day on which interest shall have become payable on the same debenture previously to the exchange thereof for stock.

3. That the sums herein-before agreed to be paid by the Secretary of State in Council for interest as aforesaid shall be in satisfaction of all interest which, under the said indenture of the , would or might become payable in respect of the principal monies raised by the said debentures, and paid into the Bank of England to the credit of the account of the Secretary of State in Council of India as aforesaid.

4. That the provision contained in the said indenture of the , one thousand eight hundred and , concerning the application of the half-yearly net receipts of the said Railway in payment of the interest therein mentioned, so as to exonerate the Secretary of State in Council from the same, and concerning the application of one half of the surplus of such net receipts in the repayment of any sums previously paid for interest, with simple interest on such sums, at the rate of five per cent. per annum, shall apply to the interest herein-before agreed to be paid as aforesaid.

5. That all monies which, under the covenant herein-before in that behalf contained, shall have been paid by the Secretary of State in Council, in satisfaction of the principal monies secured by such of the said debentures as shall not be exchanged for stock, shall be treated and considered as capital contributed by the Secretary of State in Council out of the revenues of India to the joint stock of the Railway Company; and in order to give full effect to the rights of the Secretary of State in Council in respect of the capital so contributed, the Secretary of State in Council shall be at liberty at any time to name a person or persons, into whose name or names, as trustee or trustees for for Her Majesty on account of the Government of India, an equivalent amount of stock may be placed and registered, and thereupon such stock shall be so placed and registered accordingly.

6. That the nominal amount of the capital so contributed by the Secretary of State in Council as aforesaid shall be deemed to have been paid by the said Railway Company into the Bank of England on the day on which the principal of the debentures not converted into stock of the Company, as aforesaid, shall have become payable; and the Secretary of State in Council shall thenceforth, during the residue of the said determinable term of ninety-nine years, pay to the said Railway Company in London half yearly, on the thirtieth day of June and the thirty-first day of December in every year, interest at the rate of five per cent. per annum on the nominal amount of the said stock, from the time when the said nominal amount shall be so deemed to have been paid into the Bank of England as aforesaid, and the provision referred to in the fourth clause hereof shall apply to the interest so paid, and the nominal amount of such stock shall, for all purposes, be deemed to be part of the capital of the Company.

7. That the covenants and provisions of the said indentures of the day of one thousand eight hundred and , shall remain in full force, and shall apply to payments to be made and matters to be done in pursuance of these presents, so far as is not inconsistent herewith.

In witness whereof, A. B. and C. D., being two Members of the Council of India have hereunto set their hands and seals, and the said Railway Company have caused their common seal to be affixed, the day and year first above written.

No. 2.

24, Brook Street, Grosvenor Square,
May 1, 1866.

Dear Sir,

The rejections of candidates for appointments on the various Indian Railways have amounted, during the year 1865, to 18 per cent.; a proportion differing little from that observed during the previous year, 20 per cent.

Of these rejections, not less than 35 per cent. were due to disease of the lungs; mostly either latent and threatening future mischief, or indicative of previous disease implying general unsoundness and weakness of constitution. In a smaller proportion of cases, the disease was more active and advanced.

The number and circumstances of these cases renders it impossible to avoid the inference that Indian appointments are not infrequently sought by persons because they suspect or know their lungs to be delicate or diseased, and entertain a vague *quasi*-medical belief that, for such a condition of lung, hot climates exercise a remedial influence. I need hardly say that, even assuming the accuracy of this belief, the duty of an examining physician on behalf of the Indian Railway Companies would be little affected, unless it were established that the degree of this alleged remedial influence rendered practically unimportant the effect of such

diseased conditions on prospective health. This, however, is unquestionably not the case. Disease causing debility, and debility of any kind rendering its subject less fit to resist the strain of hard work in a hot climate (not to say favouring the access of many maladies), a decided tendency to thoracic disease is, in itself, a disqualification. Nor are the advantages of Indian climate in thoracic disease by any means clear. For mortuary returns show a large proportion of deaths from disease of this kind in India, as well as from the pulmonary consumption which is its most frequent exponent or cause. And I cannot withhold the expression of a strong personal conviction that, in a considerable proportion of the deaths from "dysentery" in India, the intestinal ulceration which constitutes the malady is little more than tubercular consumption; its manifestations being, as it were, transferred from the lungs to the bowels. Assuming this view to be correct, the observation of a tendency to pulmonary tubercle, in a person hitherto inhabiting a temperate climate, suggests that he is the subject of a special liability to one of the most frequent and fatal of Indian diseases.

Two other classes of infirmity may be noticed, each amounting to *about* 20 per cent. (or one-fifth) of the total rejections.

In the organs of circulation, the heart is sometimes found structurally diseased. Much oftener, there is such a degree of weakness and relaxation, both in this organ and in the adjacent large vessels, as is scarcely less influential on the prospective health of its subjects. This latter condition often seems the direct result of bodily exertion, exceeding (either in degree or protraction) what the constitution can support. It is often associated with habitual intemperance; which, though sometimes causing it, and always increasing it, is yet, in many cases, rather its effect than its cause, the stimulants having been resorted to as a temporary remedy against exhaustion.

In the other class of cases, in which disease of the *liver* is either present or impending, the disqualifying infirmity is much more frequently and directly traceable to alcoholic excess.

As a rule, it is not so much habitual intemperance, as its effect on various organs, which is certified by medical examination. But such intemperance is sometimes unmistakeably deducible from the circumstances elicited by thorough medical inquiry. And, considering the grave influence of Indian climate and residence, both in increasing the injurious results of intemperate habits, and in affording increased temptations and opportunities for the development of these habits themselves, it is not surprising that I should have sometimes felt obliged specially to notify my opinion of the mere intemperance of candidates. To the best of my knowledge, the Directors have in every instance rejected such candidates.

In respect of vaccination, the routine I have prescribed myself is simple, but, I trust, efficient. My own observations confirm what I believe is the rule of the best authorities on this subject:—namely, that protection against small-pox is best assured by the presence of three good vaccine marks; and, in the case of adults, by a careful re-vaccination at least once after puberty. Practically, I find little difficulty in securing such a re-vaccination (by a district vaccinator under the Act of Parliament) in all cases save those in which a history of small-pox, certified by its marks, renders further risk inconsiderable.

I am, dear Sir,
Yours very truly,
WILLIAM BRINTON, M.D., F.R.S.

Juland Danvers, Esq.

No. 3.

RETURN of the Number and Nature of the Accidents and the Injuries to Life and Limb which have occurred on all the Railways open for Traffic in India during the Year 1864.

Note by Captain E. C. S. WILLIAMS, R.E., Under Secretary to Government of India, Public Works Department.

As with the returns of previous years, so with that for 1864, great delay has attended its compilation. Endeavours were made to bring it out in better time, but in the returns originally received from Bombay in July last, there were serious omissions, and it was not till January 1866 that these were supplied by the receipt of the detailed analysis prepared in the Consulting Engineer's Department of that Presidency. The completeness of the return of accidents on the Great Indian Peninsula Railway is even now open to doubt, as there is no record of any accident having occurred between the 6th and 31st December 1864.

Returns of accidents on open lines of railway are called for in the interests and for the protection of the public, and in classifying the accidents to trains, the object is to fix the respon-

sibility on the Railway Companies, in all cases that it can be so fixed with strict justice. The forms adopted for exhibiting the accidents should be such as will clearly show the public the risks attending travelling, and, at the same time, bring home to the Railway Companies the shortcomings of their administration. The forms into which the accidents of 1864 have now been thrown, are by no means intricate. Indeed, they might well go into greater detail, and separate the accidents affecting passenger trains only from those affecting goods and ballast trains.

But there is another class besides the travelling public which has to be considered, viz., the servants of the Companies. The risks they are exposed to are very great, and though the accidents they meet with are generally attributed to their own incaution, it is proper that the casualties should be prominently exhibited. A more detailed analysis of the accidents, such as would be afforded by the particulars which would be gathered from the table attached to this note, were it adopted, might tend to bring out more prominently certain classes of accidents, and lead to some measures being devised for diminishing the risks to which these employés are liable.

The following table exhibits, in a compendious form the statistics of accidents affecting passengers during the four years ending with 1864 :—

Years.	Miles open.	Number of Passengers.		Number of Accidents to Trains.	Number of Passengers from Causes beyond their own Control.					
					Gross.			Per Million.		
		Gross.	Per Mile open.		Killed.	Injured.	Killed and Injured.	Killed.	Injured.	Killed and Injured.
Great Britain, 1860 - -	10,433	193,944,156	18,589	?	30	479	509	0·15	2·47	2·62
India, 1861 - - - - -	1,221	6,464,351	5,294	248	2	6	8	·31	·93	1·24
„ 1862 - - - - -	1,866	8,202,640	4,396	276	—	—	—	—	—	—
„ 1863 - - - - -	2,408	10,705,030	4,446	234	6	22	28	0·56	2·05	2·61
Average of the three years 1861—1863 - - -	1,832	8,457,340	4,616	253	2·67	9·33	12·	0·32	1·10	1·42
India, 1864, excluding I. B. Railway - - - -	2,672	12,986,070	4,860	345	18	31	49	1·39	2·39	3·77

Taking the averages for the three years ending with 1863, the number of accidents to trains, &c., per million of passengers, was 30; and there was one accident to every 7½ miles of open line. During the year 1864 these figures were respectively 27 and 7¾.

The open mileage in 1864 was 46 per cent., and the gross number of passengers was 54 per cent. in excess of the average of the previous three years; but the number of passengers per mile open was only 5 per cent. in excess.

The comparison shows that the risks to passengers have somewhat decreased. But this is only true in comparison with the number of accidents to trains, &c., as given in these returns. For a true conclusion on this point, the accidents to *passenger trains only* should be dealt with, and it is desirable that the description of the accidents should in future be clear enough to allow of this comparison being made.

But what really effects the travelling public is the number of accidents to life or limb from causes beyond the control of passengers. In these there was, in 1864, a very serious increase over the average of the three previous years, but, as will be readily understood when the comparative smallness of the figures are considered, this may be brought about by the occurrence of two or three serious accidents, and this was the case in 1864. Two serious accidents, a detailed description of which follows the returns, occurred on the Great Indian Peninsula Railway. In the year 1863, the Indian Railway system contrasted unfavourably with that of Great Britain in this respect, owing to accidents on the Bombay lines chiefly, and the experience of these two years is, that the risks to passengers on the Great Indian Peninsula Company's line are considerably greater than on others. The Madras lines maintain their character for perfect immunity from danger.

The particulars of the number of passengers on the Indian Branch Railway Company's line between Nulhattee and Jeagunge not being forthcoming, the accidents to passengers (13 injured from carriages blown over in a storm) have been thrown out.

There is a class of casualty to Native passengers which, as it has nothing to do with the working of the trains, does not appear in these returns. The number of persons found dead in trains is very large, especially in the North-West Division of the East Indian Railway. These casualties are attributed, by the railway authorities, to the hot winds and great heat, and to the pilgrimages to the Ganges being undertaken by persons physically unfit for the fatigue of travelling; but the suspicion of unfair play may not be without foundation, and the Railway Traffic Establishment and Police may have a responsibility in the matter.

The number of persons employed on the railways who met with accidents in 1864, compared with the three previous years, is shown in the following Table:—

Years.	No. of Servants		
	Killed.	Injured.	Killed and Injured.
1861 - - - -	54	86	140
1862 - - - -	70	65	135
1863 - - - -	69	49	118
1861—63 - - -	64	67	131
1864 - - - -	73	74	147

In following out the comparisons suggested by this Table, the accidents to servants of contractors would also have to be separated, and the elements of the number of servants employed and the number of train miles and engine miles run would be useful.

They are not readily or accurately attainable here. But the number for 1864 shows an increase of only 12 per cent. over the average of the three previous years; the increase in the number of passengers and of miles open in the periods being respectively 54 and 46 per cent., as already stated. The number of railway servants was certainly much larger in the last than in the previous years, so that the increase in the number of casualties may not be considered excessive.

The number of casualties to other persons, neither passengers nor connected with railways, will be gathered from the following Table:—

Years.	Killed.	Injured.	Killed and Injured.
1861 - - - -	21	7	28
1862 - - - -	21	6	27
1863 - - - -	34	6	40
1861—63 - - -	25	6	31
1864 - - - -	29	7	36

Of the number in 1864, 31 were trespassers, of whom 26 were killed, chiefly on the East Indian, Great Indian Peninsula, and Madras Railways.

Taking the aggregate casualties for all classes from all causes, we have—

Years.	Killed.	Injured.	Killed and Injured.
1861 - - - -	79	101	180
1862 - - - -	93	74	167
1863 - - - -	112	82	194
1861—63 - - -	95	85	180
1864 - - - -	125	118	243

of which, it may be remarked, that the ratio of increase in 1864 is less than the ratio of the increase in the open mileage.

With regard to the accidents to trains, &c., during 1864, they were 345 in number, with a length open of 2,699 miles, against an average of 253, with a length open of 1,832 miles in the three previous years; but though the total number of persons of all classes killed and injured during the year was 256, the number of casualties produced by these accidents was only 76, of whom there were 18 passengers killed and 44 injured. By far the largest number of accidents consist in engines and vehicles getting off their proper line. There were 167 cases of this description in 1864, and of these at least 85 arose from the action of pointsmen. Had the classification of the Bombay returns been observed, there would have been 13 more attributable to this class of servants. Of the 85 cases, no less than 59 occurred on one railway, the East Indian, and 14 cases of collision are attributable to the same cause. These accidents arise at facing-points, and many of them in shunting within stations.

In the Bengal Division of the East Indian Railway, the "Jemadar system" of serving points, as it is called, is in force. A jemadar is made responsible for working all the points at a station, his duty being to warn his subordinates for duty, and to see them at their posts. On the North-West Division of the same railway, two pointsmen are employed at each set of points where trains are timed to pass each other, otherwise one man only. Accidents are thought to have decreased since this double manning has been introduced.

The other causes of accidents to trains which call for notice are "fire" and "running over cattle," of which there were respectively 53 and 47 instances in 1864. Cases of fire were

almost entirely confined to the East Indian Railway in its North-West Division, where wood fuel was used, and to the Great Indian Peninsula and Bombay, Baroda, and Central India Railways, on which cotton was conveyed in large quantities. Heavy claims for compensation were the results on the Great Indian Peninsula line. The cases of running over cattle were confined to the same three lines. They have increased on the East Indian Railway in the Upper Division. The fence on this portion of the line is simply a mound and ditch and is very inefficient. It will be supplemented by stretching a wire along the top of the mound. That these accidents were unaccompanied with injury to the trains is attributed to the use of cow-catchers. They are not in use, it is believed, on the Bombay lines, or only on the Bombay, Boroda, and Central India Company's line, and the consequence is that one in nearly every two of the cases of running over cattle on them, was followed by vehicles or permanent-way being injured, or the former leaving the rails. The number of cases of fire in the North-Western Provinces were probably much increased by the inefficient state of the spark baffiers, it having been found that the greater part of the wire gauze was wanting. It is reported that "it was sometimes cut away by the engine-drivers, as from the meshes being too small, " the wire got choked with soot, and interfered with the draught required to get up steam, " and sometimes the wire from its weakness and inferior quality was broken and burst " upwards by the force of the escaping steam."

Of the total number of accidents to trains, 74, or rather more than one-fifth, are classed as " apparently unavoidable or not accounted for," two as due to malice, and one to improper interference; but of the first 53 are from fire, leaving 21 attributable to other causes. The number of preventible accidents is no doubt very excessive.

The actual number of accidents which resulted in injury to passengers from causes beyond their own control was only six, of which three were on the Great Indian Peninsula Railway, and the remaining three were distributed equally between the East Indian, the Bombay, Baroda, and Central India, and the Indian Branch Railways.

In the last Table is a summary of the accidents, arranged under each Presidency. It may be gathered from this that the Madras lines, though carrying far less traffic, and having a much shorter length open, are worked far more carefully than those of Bengal or Bombay, and that the last mentioned, while they do more work per mile open, contrast unfavourably with both the others, though, looking to the number of passengers carried, the number of accidents to trains is about the same in Bombay as in Bengal.

NUMERICAL ABSTRACT OF ACCIDENTS to PERSONS of all Classes on Railways open for Traffic during 1864.

	BENGAL, N. W. P., AND PUNJAB.										MADRAS.				BOMBAY.						TOTAL.		
	East Indian.		Eastern Bengal Railway.		Calcutta and South-Eastern Railway.		Indian Branch Railway.*		Punjab Railway.		Madras Railway.		G. S. of I. Railway.		G. I. P. Railway.		Bombay, Baroda, and Central India Railway.		Sindh Railway.				
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed and Injured.
PASSENGERS.																							
From causes beyond their own control, viz.:—																							
From the accidents to trains	—	1	—	—	—	—	—	13	—	—	—	—	—	—	17	29	1	1	—	—	18	44	62
From other causes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Number	—	1	—	—	—	—	—	13	—	—	—	—	—	—	17	29	1	1	—	—	18	44	62
Per million of Passengers	—	·224	—	—	—	—	—	?	—	—	—	—	—	—	4·651	7·934	·947	·947	—	—	1·386	2·337	3·773
From their own misconduct or incaution	4	4	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	2	—	—	5	6	11
Per million of Passengers	·898	·898	—	—	—	—	—	—	—	—	—	—	—	—	·273	—	—	1·894	—	—	·385	·462	·847
Total from all causes	4	5	—	—	—	—	—	13	—	—	—	—	—	—	1	29	1	3	—	—	23	50	73
SERVANTS OF COMPANIES AND OF CONTRACTORS.																							
From causes beyond their own control	3	6	—	—	—	—	—	—	—	—	—	—	—	—	1	2	1	7	—	—	5	15	20
From their own misconduct or incaution	35	18	—	—	—	—	—	—	3	1	7	4	—	1	15	20	3	6	5	9	68	59	127
Total from all causes	38	24	—	—	—	—	—	—	3	1	7	4	—	1	16	22	4	13	5	9	73	74	147
OTHER PERSONS.																							
Crossing at level crossings	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	3
Trespassers, including suicide	10	1	—	—	—	—	—	—	—	—	4	—	—	—	10	4	1	—	1	—	26	5	31
Miscellaneous	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1	2
Total from all causes	12	3	—	—	—	—	—	—	—	—	4	—	—	—	11	4	1	—	1	—	29	7	36
Grand Total of all classes from all causes	54	32	—	—	—	—	—	13	3	1	11	4	—	1	45	55	6	16	6	9	125	131	256
Mean length of Railway open during the year (Miles)	1,058		110		28		27		45		492		79		559		196		105		2,699		
Number of Passengers carried	4,463,483		1,149,233		306,873		?		440,471		1,515,555		239,245		3,654,866		1,055,570		110,724		12,986,070†		
Train mileage (Goods and Passengers)	3,556,491		262,445		48,166		?		60,971		1,096,023		113,875		1,867,464		?		295,532		3,709,977†		
Number of servants employed	18,425		1,701		168		?		?		9,193		523		11,768		7,208		1,763		50,749†		

* The number of Passengers on the Indian Branch Railway not being known, that Railway is thrown out in the calculations per million

† These figures are all incomplete.

NUMERICAL ABSTRACT of ACCIDENTS to Trains, &c., on open Lines of Railway during 1864, showing their Causes and the Number of Persons killed and injured thereby.

NATURE OF ACCIDENTS.	Number of Accidents.	Number of Passengers.		Number of Servants of Companies and of Contractors.		Other Persons not Passengers or Servants of Companies or of Contractors.		Total Number of Servants, Passengers, and others.		Classification of Accidents.													Persons killed by improper interference by Persons not under the control of the Company.	Malicious acts of Persons not under the control of the Company.
										Apparently unavoidable or not accounted for.	Defects in Rolling Stock or Road and Works.			Neglect or Defects in Management or Discipline.										
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Rolling Stock.	Road and Works.	Fences.	Locomotive Department.	Guard.	Traffic Department.	Working Signals and Telegraph.	Pointsmen.	Gatesmen and Pointsmen.	Workmen employed on Line.				
										a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*j*	*k*	*l*	*m*	*n*		
EAST INDIAN RAILWAY—(1093 MILES OPEN).																								
I.—Collisions	42	—	1	2	3	—	—	2	4	4	—	—	—	11	—	6	1	14	—	6	—	—		
II.—Getting off proper line	21	—	—	—	—	—	—	—	—	9	—	7	—	3	—	7	—	59	—	1	—	—		
III.—Fire	29	—	—	—	—	—	—	—	—	29	—	—	—	—	—	—	—	—	—	—	—	—		
IV.—Running over cattle	31	—	—	—	—	—	—	—	—	—	—	—	20	—	—	—	—	—	1	—	—	—		
V.—Other causes	8	—	—	—	—	—	—	—	—	1	1	—	—	1	—	—	—	—	2	1	—	2		
Total	191	—	1	2	3	—	—	2	4	43	1	7	20	20	—	13	1	73	3	8	—	2		
1863—47—(924 open).																								
EASTERN BENGAL RAILWAY.—(110 MILES OPEN.)																								
II.—Getting off proper line—Total	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—		
1863—2—(110 open).																								
CALCUTTA AND SOUTH-EASTERN RAILWAY.—(28 MILES OPEN.) Nil.																								
INDIAN BRANCH RAILWAY.—(27 MILES OPEN.)																								
II.—Getting off proper line—Total	1	—	13	—	—	—	—	—	13	1	—	—	—	—	—	—	—	—	—	—	—	—		
PUNJAB RAILWAY.—(45 MILES OPEN.)																								
III.—Fire—Total	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—		
1863—5—(39 open).																								
MADRAS RAILWAY.—(492 MILES OPEN.)																								
II.—Getting off proper line	3	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	2	—	—	—	—		
V.—Other causes	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—		
Total	4	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	2	1	—	—	—		
1863—4—(446 open).																								
GREAT SOUTHERN OF INDIA RAILWAY.—(79 MILES OPEN.) Nil.																								
GREAT INDIAN PENINSULA RAILWAY—(559 MILES OPEN.)																								
I.—Collisions	11	1	12	—	1	—	—	1	13	1	—	—	—	4	1	1	2	2	—	—	—	—		
II.—Getting off proper line	66	16	17	—	1	—	—	16	18	3	—	29	—	3	2	8	—	20	—	1	—	—		
III.—Fire	12	—	—	—	—	—	—	—	—	12	—	—	—	—	—	—	—	—	—	—	—	—		
IV.—Running over cattle	17	—	—	—	—	—	—	—	—	—	—	—	16	—	—	—	—	—	1	—	—	—		
V.—Other causes	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	—	—	1		
Total	114	17	29	—	2	—	—	17	31	16	—	29	16	7	3	9	2	22	8	1	1	—		
1864—111—(495 open.)																								
BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY.—(126 MILES OPEN.)																								
I.—Collisions	3	—	—	—	7	—	—	—	7	—	—	—	—	1	—	—	—	1	1	—	—	—		
II.—Getting off proper line	4	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	2	—	—	—	—		
III.—Fire	8	1	1	—	—	—	—	1	1	8	—	—	—	—	—	—	—	—	—	—	—	—		
IV.—Running over cattle	9	—	—	—	—	—	—	—	—	—	—	—	9	—	—	—	—	—	—	—	—	—		
V.—Other causes	3	—	—	—	—	—	—	—	—	1	—	—	—	2	—	—	—	—	—	—	—	—		
Total	27	1	1	—	7	—	—	1	8	10	—	1	9	3	—	—	—	3	1	—	—	—		
1863—25—(185 open).																								
SINDH.—(105 MILES OPEN.)																								
I.—Collisions	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—		
II.—Getting off proper line	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—		
III.—Fire	3	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—		
IV.—Other causes	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Total	6	—	—	—	—	—	—	—	—	3	—	—	—	1	—	—	—	1	1	—	—	—		
1863—40—(105 open).																								

NUMERICAL ABSTRACT of ACCIDENTS to Trains, &c., on open Lines of Railway during 1864, &c.—*continued.*

NATURE OF ACCIDENTS.	Number of Accidents.	Number of Passengers.		Number of Servants of Companies and of Contractors.		Other Persons not Passengers or Servants of Companies or of Contractors.		Total Number of Servants, Passengers, and others.		Classification of Accidents.														
										Apparently unavoidable or not accounted for.	Defects in Rolling Stock or Road and Works.			Neglect or Defects in Management or Discipline.								Improper Interference by Persons not under the control of the Company.	Malicious acts of Persons not under the control of the Company.
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Rolling Stock.	Road and Works.	Fences.	Locomotive Department.	Guard.	Traffic Department.	Working, Signals, and Telegraph.	Pointsmen.	Gatesmen and Police.	Workmen employed on Line.			
ABSTRACT OF ALL LINES.—(2,699 MILES OPEN.)										*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*j*	*k*	*l*	*m*	*n*
I.—Collisions	57	1	18	2	11	—	—	3	24	5	—	—	—	17	1	7	3	17	1	6	—	—
II.—Getting off proper line	107	16	30	—	1	—	—	16	31	14	—	38	—	11	2	15	—	35	—	2	—	—
III.—Fire	53	1	1	—	—	—	—	1	1	53	—	—	—	—	—	—	—	—	—	—	—	—
IV.—Running over cattle	47	—	—	—	—	—	—	—	—	—	—	—	45	—	—	—	—	—	2	—	—	—
V.—Other causes	21	—	—	—	—	—	—	—	—	2	1	—	—	3	—	—	—	—	11	2	1	2
Grand Total	345	18	44	2	12	—	—	20	56	74	1	38	45	31	3	22	3	102	14	9	1	2
1863—234—(2,403 open).																						
Train Mileage 3,708,977.*																						

* Exclusive of Bombay, Baroda, and Central India, and Indian Branch Railways.

TABLE showing the Total Number of ACCIDENTS to Persons of all kinds and to Trains, &c., on the Railways open for Traffic in each Presidency, during the Year 1864.

Presidencies.	Length of Railway open.	Total Number of Accidents to Trains, &c., of all kinds.	Total Number of Passengers carried.	Average Number of Passengers per Mile open.	Passengers.		Servants.				Trespasses, &c.		Total.		
							Beyond own control.		Within own control.						
					Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed and Injured.
	Miles.														
Bengal*	1,241	193	6,350,110	5,117·	4	5	3	6	38	19	12	3	57	33	90
Madras	571	4	1,814,800	3,178·	—	—	—	—	7	5	4	—	11	6	16
Bombay	860	147	4,821,160	5,606·	19	32	2	9	23	27	35	4	57	80	137
Grand Total	2,672	344	12,986,070	4,860·	23	37	5	15	68	59	59	7	125	118	243

* Excluding Indian Branch Railway from Nulhattee to Jeeagunge, the particulars of which are incomplete.

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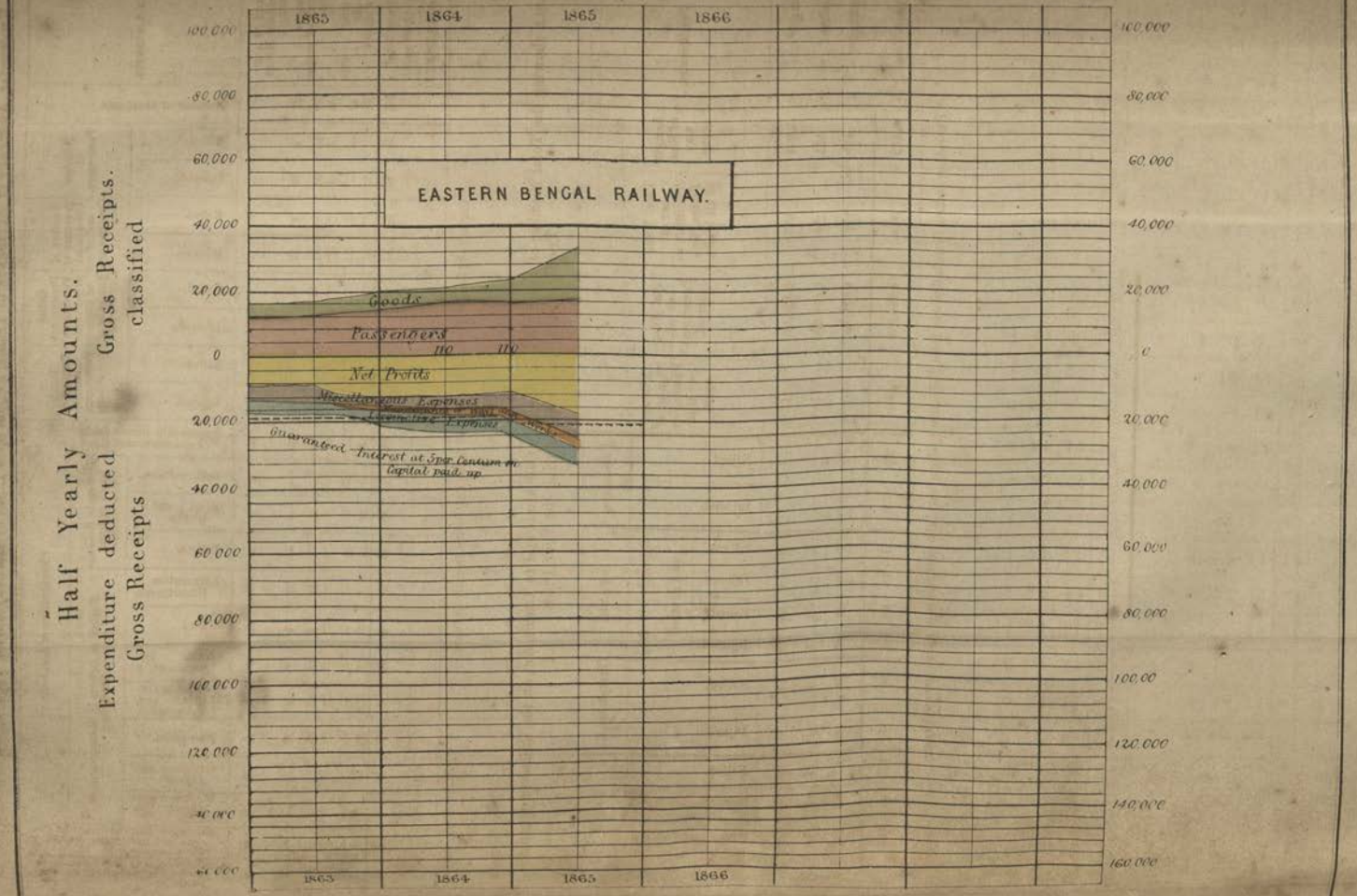
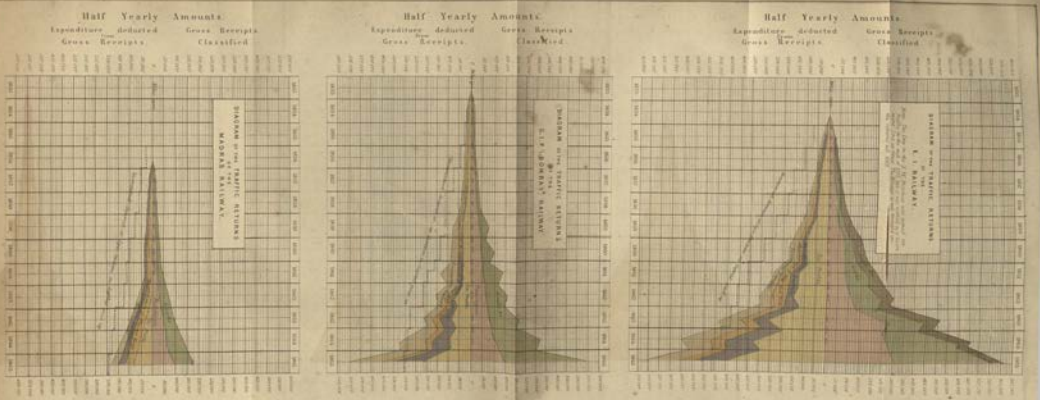

Half Yearly Amounts.
Expenditure deducted
Gross Receipts
Gross Receipts.
classified
1863
1864
1865
1866
EASTERN BENGAL RAILWAY.
Goods
Passengers
Net Profits
Miscellaneous Expenses
Guaranteed Interest at 5 per Centum on Capital paid up.
100,000
80,000
60,000
40,000
20,000
0
20,000
40,000
60,000
80,000
100,000
120,000
140,000
160,000


Half Yearly Amounts.
Expenditure deducted from Gross Receipts.
Gross Receipts Classified
DIAGRAM OF THE TRAFFIC RETURNS OF THE MADRAS RAILWAY.
Half Yearly Amounts.
Expenditure deducted from Gross Receipts.
Gross Receipts Classified
DIAGRAM OF THE TRAFFIC RETURNS OF THE G.I.P. RAILWAY.
Half Yearly Amounts.
Expenditure deducted from Gross Receipts.
Gross Receipts Classified
DIAGRAM OF THE TRAFFIC RETURNS OF THE B. B. & C.I. RAILWAY.

Half Yearly Amounts.

Expenditure deducted from Gross Receipts

Gross Receipts Classified

DIAGRAM OF THE TRAFFIC RETURNS OF THE MADRAS RAILWAY.

Half Yearly Amounts.

Expenditure deducted from Gross Receipts

Gross Receipts Classified

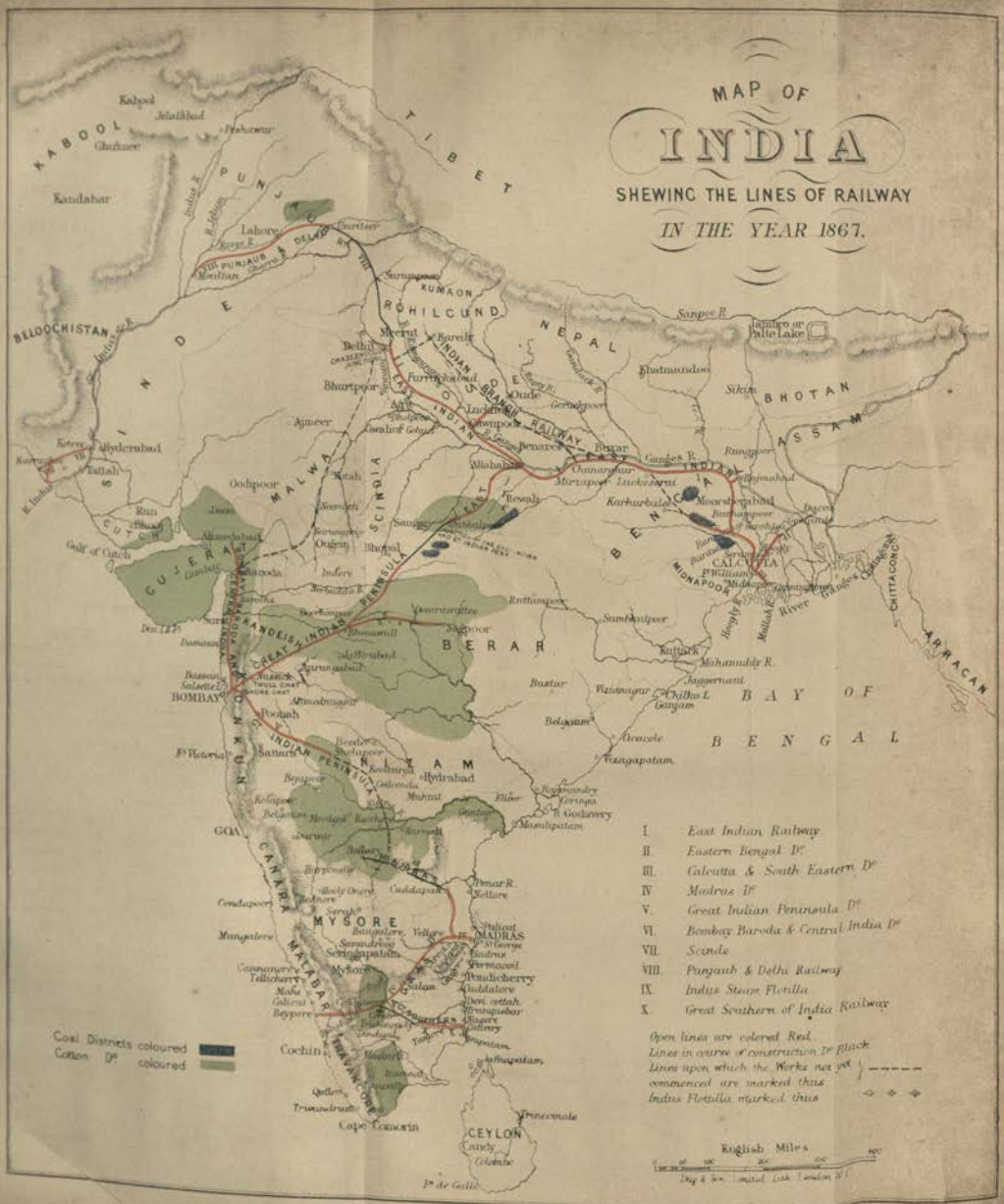
DIAGRAM OF THE TRAFFIC RETURNS OF THE G. I. P. & BOMBAY RAILWAY.

Half Yearly Amounts.

Expenditure deducted from Gross Receipts

Gross Receipts Classified

DIAGRAM OF THE TRAFFIC RETURNS OF THE E. I. RAILWAY.


MAP OF
INDIA
SHEWING THE LINES OF RAILWAY
IN THE YEAR 1867.
I. East Indian Railway
II. Eastern Bengal Dº
III. Calcutta & South Eastern Dº
IV Madras Dº
V. Great Indian Peninsula Dº
VI. Bombay Baroda & Central India Dº
VII. Scinde
VIII. Punjaub & Delhi Railway
IX. Indus Steam Flotilla
X. Great Southern of India Railway
Open lines are colored Red.
Lines in course of construction Dº Black
Lines upon which the Works not yet commenced are marked thus
Indus Flotilla marked thus
Coal Districts coloured
Cotton Dº coloured
English Miles
KABOOL
Kabul
Jelalabad
Peshawur
Ghuznee
Kandahar
BELOOCHISTAN
INDE
PUNJAUB
Lahore
Umritsur
Multan
Sutlej R.
Indus R.
TIBET
KUMAON
ROHILCUND
NEPAL
Delhi
Meerut
Bareilly
Agra
Bhurtpoor
Ajmeer
Oodipoor
MALWA
SCINDIA
Neemuch
Gwalior
Jeypoor
Kotah
Hyderabad
Tattah
Indus R.
Kurrachee
Run
Cutch
Gulf of Cutch
GUJERAT
Ahmedabad
Baroda
Indore
Bhopal
Sanchi
Saugor
Jubbulpore
Rewah
Allahabad
Benares
Mirzapoor
Lucknow
Cawnpore
Futtehpoor
Ganges R.
Sarjoo R.
Gogra R.
Gunduck R.
Kurrumnassa R.
Soane R.
Sangor R.
Jamuna or Pulse Lake
Khatmandoo
Sikim
BHOTAN
ASSAM
Rungpore
Jorehaut
Dinapore
Berar
Moorshedabad
Burrampoor
Kishnaghur
Serampore
CALCUTTA
Fort William
Midnapoor
Hooghly R.
Baitalee River
Chittagong
ARRACAN
Nagpoor
BERAR
Ruttunpoor
Sumbulpoor
Kuttack
Mahanuddy R.
Jaggernaut
Bustar
Vizianagar
Chilka L.
Ganjam
BAY OF BENGAL
Belgaum
Goa
Goa
Vizagapatam
Rajamundry
Veringa
R. Godavery
Masulipatam
Hyderabad
NIZAM
Sholapoor
Kolapoor
Belgaum
Dharwar
Bellary
Cuddapah
Penar R.
Nellore
Pulicat
MADRAS
St George
Madras
Pondicherry
Cuddalore
Porto Novo
Tranquebar
Negapatam
Tanjore
Trichinopoly
Madura
Dindigul
Palamcottah
Tuticorin
Aripo
Manaar I.
Paumben
Ramnad
Tondy
Cape Comorin
CEYLON
Candy
Colombo
Pt de Galle
Trincomale
Kaira
Surat
Bombay
Salsette I.
Bassein
Panwell
Ahmednuggur
Poonah
Satara
Sholapoor
Beejapoor
Kolapoor
Belgaum
Dharwar
Hurryhur
Bellary
Cuddapah
Chittoor
Arcot
Vellore
Bangalore
Seringapatam
Mysore
Nuggur
Cannanore
Tellicherry
Mahe
Calicut
Beypore
Palghaut
Coimbatore
Erode
Salem
Dindigul
Madura
Tanjore
Negapatam
Cochin
Quilon
Trivandrum
Aleppee
Tuticorin
Ramnad
Paumben
Manaar I.
Aripo
Palamcottah
Trincomale
Candy
Colombo
Pt de Galle
Cape Comorin
MYSORE
CANARA
MALABAR
COROMANDEL
COAST
PENINSULA
GREAT INDIAN PENINSULA
SOUTH INDIAN
EAST INDIAN
BRANCH RAILWAY
GREAT SOUTHERN OF INDIA RAILWAY
MADRAS RAILWAY
BOMBAY BARODA & CENTRAL INDIA RAILWAY
PUNJAUB & DELHI RAILWAY
INDUS STEAM FLOTILLA

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1866-67.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
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FOR HER MAJESTY'S STATIONERY OFFICE

1867.

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REPORT.

To the Right Honourable Sir STAFFORD H. NORTHCOTE, Bart., M.P., Secretary of State for India.

SIR, India Office, 8th May 1867.

I HAVE the honour to lay before you the following Report on Railways in India for the year 1866, with a review of their financial position at the close of the official year 1866–67.

2. The year has not been one of uninterrupted prosperity. Several events have contributed to disturb the even course of progress. There have been financial disasters in this country which have checked the raising of capital. There have been commercial difficulties in India which have interfered with the development of traffic. The droughts in some parts of the country and the unprecedented floods in other parts, have also had an injurious effect both upon the works and upon the general business of the lines. The deficiency in the funds of some of the Companies was not, however, allowed to impede the progress of construction, the Government having always made the necessary advances, which, at times, amounted to more than a million sterling in excess of the sums raised. And although a greater portion of the year has been an unfavourable one for traffic, the two great Companies, the East Indian and the Great Indian Peninsula, realized profits during the earlier half, which enabled them, for the first time, to divide among their shareholders a larger dividend than the 5 per cent. interest guaranteed to them by the Government. While, therefore, the past year has presented some features of a gloomy character, it has, upon the whole, produced results which are very encouraging for the future.

Progress during the year 1866.

3. At the commencement of the year 1866, there were three thousand three hundred and thirty-one (3,331) miles of railway open for traffic. Two hundred and five (205) miles were finished during the year 1866, and one hundred and one (101) miles since, so that there are now three thousand six hundred and thirty-seven (3,637) miles of railway open in India. Of the three hundred and six (306) miles which have been added since the 1st January 1866, one hundred and fifty and a half (150½) belong to the Great Indian Peninsula, forty-seven and a half (47½) to the Great Southern, thirty (30) to the Delhi, thirty-four (34) to the Madras, forty-two (42) to the Indian Branch Railway, and two (2) to the East Indian. The last-mentioned section is small in length, but it is important in character, as it includes the fine girder bridge which crosses the River Jumna at Delhi, and gives the East Indian and the Delhi Railways access to that city. The additions to the Great Indian Peninsula Railway include the last section of the line to Nagpore, the present terminus of that line in the great cotton districts of Central India. The completion of this branch places India in a better position than she has ever yet been in for providing this country with cotton. It is to be hoped and expected that the facilities now afforded for its transport will be followed by an improvement in its cultivation and in the mode of preparing and packing it for its ultimate destination.

Railways in course of construction.

4. Fair progress has been made in the lines in course of execution. The expectation which was held out that the East Indian line to Jubbulpore would be opened by the cold season of this year is likely to be anticipated, news having just been received that the first train traversed the line from Allahabad to Jubbulpore on the 2d May, and that it would probably be opened to the public on the 1st June. The Great Indian Peninsula Railway, which joins it at the latter place, will, it is expected, be finished by October or November 1868, and a through communication will then be established between Bombay and Calcutta.

5. Satisfactory progress has been made on the Delhi Railway works. The section of thirty-five miles above referred to, which was opened last month, lies between Meerut and Ghazeeabad, at which place it forms a junction with the East Indian Railway.

6. The doubling of the East Indian line from Luckeserai (the junction of the chord line) to Allahabad is being proceeded with, so that when in 1868 or 1869 the chord line is opened, there will be a double track the whole way between Calcutta and Allahabad. On the Great Indian Peninsula Railway, the doubling of 245½ miles is also being carried on. When this work is completed, 322 miles of the line will be double.

7. The following table shows the length of each line now open for traffic and the extent remaining to be finished.

Railway.	Total Length as at present sanctioned (given approximately).	Length opened during 1866.	Length opened since 1st January 1866.	Total Length now opened (1st May 1867).	Length remaining to be finished in 1867.	1868.	1869 and subsequently.	Total.
East Indian - Main line -	1,276¼	2	—	1,131¼	—	—	145	145
East Indian - Jubbulpore line -	225	—	—	—	225	—	—	225
Great Indian Peninsula - -	1,266¾	121½	29	852½	141	281	—	422
Madras - S.-W. line, including Bangalore branch - -	492	—	—	492	—	—	—	—
Madras - N.-W. line - -	333	34	—	153	—	60	120	180
Bombay, Baroda, and Central India -	312¼	—	—	306	—	6½	—	6½
Scinde - - - - -	109	—	—	109	—	—	—	—
Punjab - - - - -	253	—	—	253	—	—	—	—
„ Delhi - - - -	320	—	30	30	27	117	141	285
Eastern Bengal - - -	159	—	—	114	—	—	45	45
Great Southern - - -	166	47¼	—	126	39½	—	—	39½
Calcutta and South-Eastern - -	29	—	—	29	—	—	—	—
Indian Branch - - -	700	—	42	42	—	—	658	658
Total - - - - -	5,641½	204¾	101	3,637¾	432	464½	1,109	2,005½

Indian Branch Railway Company how guaranteed.

8. It will be observed that a new name has been included in the above list, and that 5,626 miles instead of 4,944, as last reported, have been sanctioned under the guarantee system. In my report for the year 1865-66, I explained the terms upon which it had been proposed that the Indian Branch Railway Company should undertake to construct a system of railways through Oude and Rohilcund, with branches to various places on the East Indian Railway. With considerable difficulty, and not without a loan from the Government, the Company obtained just sufficient funds, viz., 225,000*l.*, to enable them to construct a line from Cawnpore to Lucknow in Oude, a distance of 42 miles, having previously executed a branch line to Moorshedabad from the Nulhatee station of the East Indian Railway in Bengal; but it was not found possible to induce the public to subscribe a larger amount of capital upon the terms granted.

9. The districts of Oude and Rohilcund through which this Company's system passes are populous and highly productive, and have obtained the name of the garden of India. There are no engineering difficulties and very few works of great magnitude, except the bridges over the Ganges, which will have to be made if the full benefits of the lines are to be secured. There was thus every prospect that the proposed line, if properly constructed and well managed, would soon pay; but all these advantages were of no avail. It would appear that, at present, the guarantee by Government of a certain return upon the capital subscribed is required to induce the public to subscribe any considerable amount for works of this kind in India. It became necessary, therefore, to consider whether the scheme should be abandoned, or whether it should be carried out under the guarantee system. The admission of the Company into the favoured list above given, shows the decision arrived at. One of the last acts of Lord Cranborne, before leaving office, was to offer the guarantee to the Branch Railway Company, upon similar but somewhat modified terms to those contained in existing contracts.

New Form of Contract

10. The form of these contracts was settled eighteen years ago, and the experience which has been gained since that time suggested various alterations in the details

of the agreements, but in the main the terms are the same, and are, if anything, more favourable for the Company. In the old contract the guarantee is given for 99 years, and at the end of that period the railway lapses to Government; but these provisions are practically annulled by the power which the Company has of surrendering the railway to the Government at any time before the expiration of the 99 years (at the 98th year, for example), and receiving back from the Government the capital expended. In the new contract there is no period fixed for the termination of the guarantee or of the interest of the Company in the undertaking, but the Government have the power of taking possession of the line after the first 20 years of the agreement, or at the expiration of any ten years thereafter. In the event of their exercising this power within 100 years, they will have to pay to the Company a sum equivalent to the average value of the stock during the three preceding years. If they do not exercise the power until after 100 years, they only have to pay back the capital expended.

11. In both contracts the Companies have the power of surrendering the railway to the Government any time after it has been opened for six months; and in the event of this being done, the Government in like manner pay back the capital expended.

12. There is a preliminary provision in the new contract, which is not in the old, empowering the Secretary of State, if after the surveys have been made he should consider it undesirable to proceed with the work, to terminate the contract by paying the expenses of such surveys and returning to the Company any money they may have paid into the Government Treasury.

13. Instead of 1*s.* 10*d.* being the rate at which, in the transactions between the Government and the Companies, the rupee is converted into sterling, 2*s.* is to be the rate for the future.

14. With respect to fares, it is provided that a maximum rate shall be fixed by the Government, and that the Company shall be allowed to charge such rates as they shall think fit within the limits prescribed. There is no such provision in former contracts, but the principle has been acknowledged by the Secretary of State as applicable to all the Companies.

15. The division of surplus profits is to be made yearly, instead of half-yearly as provided in the old contracts. This provision is made in consequence of the inequality of the earnings during the two half years ending the 30th June and 31st December respectively.

16. Whenever under the provisions of the contract the Government has to pay back capital to the Company, it may be done by transferring to them an equivalent amount of 5 per cent. Government of India Stock. In the existing contracts this payment may be made by an annuity, equivalent to the gross amount payable, the rate of interest which shall be used in calculating such annuity being determined by the average rate of interest during the preceding two years received in London upon public obligations of the Secretary of State in Council.

New projects for Railway communication between Bombay and the Upper Provinces, and Scinde and the Punjab by the Valley of the Indus.

17. Of the various other railway projects which have been under consideration during the past year, three appear to call for notice. The main object of all is to extend railway communication to the Upper Provinces of India. The first is a line commencing at Baroda on the present Bombay, Baroda, and Central India Railway, and going through Neemuch on to Delhi. The second is called the Indus Valley line, and is projected to unite the existing Scinde and Punjab Railways, providing by this means a continuous line of railway communication, about 2,200 miles in length, from the port of Kurrachee to Calcutta, *viâ* Hyderabad, Mooltan, Lahore, Delhi, and Allahabad. The third is a line from Lahore to the North-West Frontier at Peshawur.

18. As it was evident that none of these lines could be undertaken without the aid of the guarantee, the questions to be considered were, 1st, whether their construction was at present called for, either upon political or commercial grounds; 2dly, whether it was inexpedient, on financial grounds, to commence them simultaneously, and, if not, which should have the preference; and, 3dly, if either were sanctioned, by what agency it should be undertaken.

19. In a country like India, it would be difficult to fix upon any line of communication 200 miles in length which did not, to some extent, combine commercial with political and military advantages. Some lines would, of course, fulfil both objects to a greater degree than others, and, unless there were paramount reasons for a purely military road, it must be admitted that one which would connect existing marts, or open new sources of trade, should be preferred, as more likely to be remunerative. So long as State assistance is necessary, it should be borne in mind that every million expended on one work delays another. The revenue is not so elastic as to bear an unlimited amount of guarantee, nor will the public subscribe an unlimited amount of capital. It may be roughly estimated that the cost of the three lines above described would be,—

	£
For the Lahore and Peshawur line, 250 miles, at 20,000*l.* a mile	5,000,000
For the Indus Valley line, 500 miles, at 12,000*l.* a mile - -	6,000,000
For the Rajpootana line, 570 miles, at ditto - - -	6,840,000

20. This expenditure of nearly 18,000,000*l.* would be spread over several years, and the yearly decreasing demand upon the Government for the guarantee on the open and productive lines would enable the revenue to bear the additional liability without any sensible inconvenience, but it is a not inconsiderable amount to add to the 80,000,000*l.* which will have to be raised to complete works now in progress. It has been decided that the Lahore and Peshawur line, which is the most costly of the three, and which was recommended chiefly on political grounds, should not be sanctioned at present. No decision has yet been come to with respect to the execution of the other two, although they may be regarded as works which will ultimately be required to form a complete system of main lines for the country.

Rajpootana Line.

21. Surveys indeed of the line between Baroda and Delhi are already being carried on, with the view of ascertaining the best route and making complete estimates of the cost. If the results of these operations should be satisfactory, arrangements will probably be made for constructing the line. As it would proceed, for the most part, through Native States, preliminary arrangements must be made with their rulers, and it is to be hoped that the great advantages which railway communication would bring to their territories will induce these Native Princes to take a liberal and enlightened view with respect to the assistance to be given to the undertaking, as well as with regard to the general principles for conducting the traffic. In some places the existing oppressive transit dues could, for instance, be reduced or relaxed with advantage both to the Native State and to the trader, when a railway becomes the means of transit. The Indus Valley has already been surveyed for a railway.

Indus Valley Line.

22. I would here beg to refer to a matter, in connexion with this and the Punjab system of railways, which cannot fail to have an important bearing upon the internal communication of the north-west quarter of India. The commercial objects of these undertakings must be very imperfectly met, unless a safe and commodious harbour for ships at all seasons can be formed at Kurrachee. Although it is the terminus of the railway, it is not the ultimate destination of the goods brought by the railway. It is the port for the trade of the Punjab and neighbouring countries, and if that trade increases, which it is sure to do with better means of communication, it will soon surpass the present capabilities of the harbour.

Kurrachee Harbour.

23. So long ago as 1856, the Government employed the late Mr. Walker, the eminent harbour engineer, to investigate the subject, and, having partially adopted his recommendations, and the designs which he prepared, the works were commenced in 1859. Considerable progress has been made in them, and recent accounts show that the effect has been to increase the area of the harbour from about 70 to 100 acres. Doubts, however, have recently been raised as to whether the designs are calculated to accomplish the object desired, and a reference having been made to the Messrs. Stevenson, of Edinburgh, their opinions were unfavourable to the further prosecution of the works on the principle laid down by Mr. Walker. This recommendation has naturally produced great disappointment. More than a quarter of a million had already been expended; and to be told that the money, if not absolutely wasted, had not been usefully laid out, and that much valuable time had been lost, was very mortifying to all who were interested in the success of the railway, and the advance-

ment of the prosperity of Scinde and the Punjab. Lord De Grey, when Secretary of State, felt that he had no alternative but to desire a suspension of operations for a time, and to require that the question in all its bearings should be carefully considered, and the effect of the present works upon the currents and shoals narrowly watched. Thus the matter stood when the Right Hon. R. Seymour Fitzgerald was appointed Governor of Bombay. The whole subject was then commended to his special attention by Lord Cranborne, who, at the same time, stated that the expediency of resuming the whole or part of the suspended works should be duly considered "whenever further experience may have furnished "sufficient additional data for the satisfactory settlement of the question." Mr. Fitzgerald's views are now anxiously looked for.

Chord line for the Great Indian Peninsula Railway.

24. Among the projects for railway extension, a proposal has been submitted for making the Great Indian Peninsula Railway system more complete, by the construction of a chord line eastward of the Ghâts, to connect the north-east and south-east branches of that railway. The Directors were not disposed to regard the proposition with favour, being of opinion that the suggested line possessed no commercial advantages. The Government, however, taking a different view of the case, and recognizing the obvious political recommendations of the proposal, have ordered certain data to be collected, and surveys and estimates to be made, with the view of enabling them to form a final decision on the subject.

Proposed extension of the Madras Railway to Cochin.

25. The extension of the Madras Railway beyond its present western terminus at Beypore, to some place on the sea coast which should besides serve the purposes of a maritime terminus, has likewise been under consideration. The investigation of the subject has led to the conclusion that the only eligible place to which it would be desirable to extend the line is Cochin, which is about 60 miles lower down the coast than Beypore. Here there is a very fair port, and at a place called Narrakal, within a few miles of Cochin, there is a safe roadstead for ships at all seasons of the year. The province of Cochin is rich in natural productions, and it is computed that the traffic of the line itself would soon be remunerative. If this may be calculated upon, and if the extension of the present railway to a convenient seaport would increase the value of the whole undertaking, it will probably be found expedient to construct this additional 60 miles, provided that satisfactory arrangements can be made with the Rajah of Cochin for obtaining the necessary land, for securing the Company in undisturbed possession of the line, and for carrying on the traffic after its completion. That no difficulty is likely to occur in the settlement of such questions with the Rajah we may be pretty confident, from the enlightened policy pursued by His Highness in conducting the government of the country, and, more especially as regards the work under immediate consideration, from the important step which he has already taken, in putting up a handsome iron girder bridge suitable for a railway over the river Ponany, where the proposed line would cross it.

Railway Bridge over the Hooghly at Calcutta.

26. One important question in connexion with railway extension, and one which intimately concerns the completeness of the East Indian Railway, still remains to be settled. I allude to the project for carrying the East Indian Railway across the Hooghly into Calcutta, and forming a junction in that city between it, the Eastern Bengal, and the Mutlah Railways. Such a work is, in the opinion of those best able to judge, imperatively required in the interests both of the Railway Company and of the public.

Postal Service.

27. The railways are at length beginning to produce an effect upon the Postal service, not only in India but between this country and many parts of India. Hitherto there has been a difference of about ten days in the length of time occupied in the transmission of letters between England and Calcutta and between England and Bombay. The English mails separated at Aden, from whence one portion was taken to Calcutta *viâ* Ceylon and Madras, and the other portion direct to Bombay. When the railways between Bombay and Calcutta are completed, the mails will be conveyed from one place to the other in about 44 hours. At the present time, by using the portions of line open and taking the mails the rest of the way by carts, about five days are occupied.

28. The Select Committee of the House of Commons on East India Communications which sat last session, and which was presided over by Mr. R. W. Crawford, M.P., the Chairman of the East Indian Railway Company, stated

as their opinion that,* "Whilst it had not been expedient hitherto to add to "the expense of the postal communication with India, by establishing a "more frequent service to Bombay in addition to the existing services to "Madras and Calcutta, yet, having regard to the facilities already afforded "by the railways under construction in India, and to the prospect of the "early completion of the main lines of communication connecting the port of "Bombay with the Presidencies of Calcutta and Madras, the North-Western Pro-"vinces and the Punjab, the time has arrived when tenders should be invited for "a weekly service to Bombay alone; and the separate postal service between this "country and Madras and Calcutta should be discontinued." By means of the railway from Bombay to Calcutta, letters will be conveyed next year from London to the latter place, *viâ* Marseilles, in 26 days. And when the Italian route described by Colonel Tyler, R.E., in his report to the Postmaster General, and after his inspection of the railways and ports of Italy, is adopted, only 22 days will be occupied in taking the mails from London, *viâ* Paris, Mont Cenis, Brindisi, and Alexandria to Bombay. "It will be possible," he says, "next year (1867) to "convey the Eastern mails between London and Alexandria punctually and "without difficulty in 150½ hours, and at some time after 1871, when the per-"manent line between St. Michel and Susa is at work, in 147½ hours. The "longest portion of the journey that can be made at present, or next year, without "change of vehicle, is from Susa to Brindisi, 716 miles, in 27 hours; but it may "be expected when the tunnel line is completed, after 1871, that mails and pas-"sengers will travel, without change of vehicles, between Calais and Brindisi, "1,391 miles in 54 hours."

Audit System.

29. A new and improved system of audit, founded upon that originally proposed and adopted by the East Indian Railway Directors, has been generally introduced during the past year. By this system, arrangements are made for the supply, at convenient periods, of funds for the purposes of construction and revenue respectively, for the examination of accounts and check upon disbursements, for the accurate distribution of charges between capital and revenue, for the verification of store returns, and for the examination of the half-yearly revenue accounts. A system of pre-authorization is followed where practicable, so as to secure the approval of Government to the purpose of an expenditure before it is incurred, and a final examination takes place when the expenditure is passed to capital and revenue. In the system thus briefly described, the object has been to make the control over expenditure as effective as possible, without undue interference in details, and without removing responsibility from the proper quarter. The duty of inaugurating it has been committed to Mr. G. W. Kellner, who has received the commendation of the Government of India, as well as of the Secretary of State in Council, for the manner in which he has performed the service.

Duties performed by the Boards in this country.

30. While the chief executive and administrative work connected with these undertakings is performed in India, the supreme direction of affairs is vested in the Boards in London, whose responsibilities and duties are important and multifarious. The Boards consist of a Chairman (with a Deputy Chairman and Managing Director in some cases), and Directors varying in number from six to ten, the Government Director being *ex officio* Member of each Board. Committees consisting of two, three, or four members are generally formed, having special duties assigned to them connected with the Transfer, Finance, Audit, and Shipping Departments. In the case of each Company, the Boards are so constituted as to contain the elements of Indian or local knowledge as well as of experience in the different branches of business which necessarily come under the consideration of Railway Directors. It is to be hoped that the Boards will always preserve this varied character, for thus composed they cannot fail to possess the confidence of the Government and of the public.

31. I cannot better describe the actual work performed by the Boards than by quoting the account given by the Chairman of the East Indian Railway Company, Mr. R. W. Crawford, M.P., in a paper recently printed for Parliament, of the duties of his own Board. The description applies equally to the other Companies.

"The Board hears read at its weekly meetings, and disposes of, in the way of reply and otherwise, a constant and voluminous correspondence with the Secretary

* Page 15 of Report.

of State, the Board of Agency and Chief Auditor at Calcutta, the shareholders, and the public generally. It considers and decides all questions affecting the policy of the Company, and determines all matters relating to the raising of capital. It considers, also, with the Consulting Engineer, either personally or in correspondence, important questions daily arising connected with the supply of materials and stores for India, the selection of officers required to fill vacancies in the establishments abroad, and innumerable special references on matters within his department. It receives and considers the reports from its Committees, examines the bills for goods supplied, approves the weekly schedule of applications to the Secretary of State for money to discharge the same, and generally transacts the current and special business of a Board of Directors of a public Company. The Board is advised by its Consulting Engineer as to all matters of an engineering character, and upon all questions relating to the purchase of, or contracting for, machinery, permanent way, stores, and goods of every kind. Purchases are decided, as an invariable rule, upon sealed tenders opened in the presence of the Board. In the case of goods for which tenders have been invited by public advertisement (which, as a rule, is the principle acted upon), whilst the Board reserves to itself the right to accept the tender best in its judgment for the interests of the Company, the lowest tender is accepted unless the Board is advised to the contrary, upon good and sufficient grounds, by the Consulting Engineer. In special cases, when, upon the advice of the Consulting Engineer, it is considered desirable to invite tenders from selected houses, the lowest tender conforming to specification is invariably accepted. All goods are contracted for under specification, and are carefully inspected during the process of manufacture, and the same care is observed in the packing of the goods for shipment. As a rule, payment is made on the certificate of the Consulting Engineer, and proof of due delivery at the Company's wharf or on shipboard.

"All demands on the Company, of every kind (excepting for petty cash disbursements) are submitted, with vouchers, for the sanction of the Board, and finally settled by cheques drawn against money sanctioned and issued for the special purpose by the Secretary of State, out of the funds of the Company standing upon his account at the Bank of England."

32. There has been considerable activity in the shipment of goods for the use of the railways during the past year. In the previous year (1865), 199,157 tons were despatched in 442 ships. Last year, 568 ships were employed to take out about 320,000 tons. Freights have been very high, averaging about 40*s.* per ton. A large number of locomotive engines, a quantity of iron-work for rolling stock, iron and steel rails, and cast-iron sleepers have been sent out. Shipments of materials from this country.

33. The following table furnishes the usual particulars:—

Railway Company.	Number of Ships employed in 1866.	Amount of Goods shipped in 1866.	Value of Goods shipped in 1866.	Amount paid for Freight and Insurance in 1866.
		Tons.	£	£
East Indian	86	69,827	555,301	109,617
Great Indian Peninsula	116	97,394	555,173	196,794
Madras	53	22,751	174,195	43,084
Bombay, Baroda, and Central India	81	55 763	259,667	106,742
Scinde	125	610	14,114	2,035
Punjaub		1,103	27,750	3,407
Indus Flotilla		5,046	102,465	15,748
Delhi		49,505	580,783	128,934
Eastern Bengal	38	7,016	93,500	16,199
Great Southern of India	13	14,618	130,600	34,171
Calcutta and South-Eastern	22	3,212	51,097	7,907
Indian Branch	47	—	113,712	9,759
Total	581	*326,845	2,658,357	674,397

* Exclusive of the Indian Branch Railway.

Shipments since commencements of railway works in India.

34. The shipments which have been made from this country to India for the purposes of the railways since their commencement will be seen in the subjoined account:—

Year.	No. of Ships.	Ships lost.	Amount of Goods shipped.	Value of Goods shipped.
			Tons.	£
Up to end of 1860 - - -	2,605	39	2,094,686	10,431,976
In 1861 - - - - -	407	—	182,621	1,669,443
„ 1862 - - - - -	280	1	138,013	1,487,582
„ 1863 - - - - -	279	2	166,840	1,285,464
„ 1864 - - - - -	233	—	102,318	1,018,164
„ 1865 - - - - -	442	2	199,157	1,729,543
„ 1866 - - - - -	581	7	312,227	2,527,757
Total - -	4,827	51	3,195,862	20,199,929

35. It will be seen that seven ships laden with railway goods were lost during the past year. One had stores of the Great Indian Peninsula Railway, which were valued at 3,574*l*. One with Madras Railway materials, valued at 4,744*l*. Four with Bombay and Baroda Railway goods, valued at 26,205*l*. One with goods for the Branch Railway. The losses were all recovered from the underwriters. In the case of the Indian Branch Railway Company the cargo was saved.

Locomotives and rolling stock.

36. The following table will show the amount of locomotive power and rolling stock now possessed by each Company, and the extent to which it has been increased during the year. The results of the orders for locomotives which were given last year will be sent in the return of next year:—

Railway.	Locomotives.			Passenger Carriages.		Trucks and Waggons.		Total Number of Vehicles on 31st December 1866.
	Former Number.	Added in 1866.	Total Number, 31st Dec. 1866.	Former Number.	Added in 1866.	Former Number.	Added in 1866.	
East Indian - - -	328	4	332	523	81	4,667	—	5,271
Great Indian Peninsula -	143	24	167	302	108	3,426	387	4,223
Madras - - -	80	26	106	190	16	2,223	258	2,687
Bombay, Baroda, and Central India - - -	72	—	72	237	—	3,922	50	4,209
Scinde - - -	25	—	25	66	—	647	18	731
Punjaub - - -	34	4	38	103	13	595	74	785
Eastern Bengal - -	28	—	28	92	—	359	110	561
Great Southern of India -	9	2	11	35	—	174	21	230
Calcutta and South-Eastern -	6	6	12	36	20	160	318	534
Indian Branch - -	—	4	4	—	12	—	37	49
Total - -	725	70	795	1,584	250	16,173	1,273	19,280

Proprietors of Railway Securities.

37. The usual statement with regard to shareholders and debenture holders here follows. They have increased from 39,466 on the 1st January 1867 to 43,398 on the 31st December last. The Natives of India continue to form a very small proportion of the number, Last year the proportion was above one per cent., now it

is below. It is, therefore, almost exclusively from England that the capital for the railways has been supplied; but it is worthy of observation that a considerable number of persons who derive their income from or have accumulated fortunes from their connexion with, India, either as members of the Service, merchants, or otherwise, have invested in these securities:—

Railway.	Number of Shareholders on 31st December 1866.						Number of Debenture Holders.	Total Number of Proprietors on the 31st December 1866.
	Registered in England.			In India.				
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.		
East Indian - - -	4,996	6,194	11,190	158	124	282	3,956	15,428
Great Indian Peninsula -	3,557	4,832	8,389	73	119	192	1,343	9,924
Madras - - - -	1,973	2,862	4,835	—	—	—	879	5,714
Bombay, Baroda, and Central India.	1,530	2,510	4,040	18	69	87	1,005	5,132
Scinde - - -	536	730	1,266	16	3	19	156	1,441
Punjaub - - -	516	804	1,320	17	2	19	63	1,402
Delhi - - -	541	665	1,206	40	6	46	—	1,252
Indus Flotilla - -	87	196	283	—	—	—	120	403
Eastern Bengal - -	385	672	1,057	21	17	38	428	1,523
Great Southern of India	238	337	575	4	7	11	57	632
Calcutta and South-Eastern.	111	242	353	28	51	79	115	547
Indian Branch - -	207	128	335	21	22	43	48	426
Total - -	14,677	20,172	34,849	396	420	816	8,170	43,824

LEGISLATION.

Legislative Act for the regulation of railways.

38. The Bill which had been prepared for providing regulations for the proper management of railways has received attentive consideration both from the Home Government and the Boards of the respective Railways, and it has been returned to the Government of India with various suggestions and recommendations. Its main objects are to secure for the public all the advantages and conveniences which these great highways can reasonably be expected to provide, and to confer such powers upon the Companies as shall enable them to conduct properly the business of public carriers, and to manage the railways to the advantage of all concerned.

UNGUARANTEED RAILWAYS.

Unguaranteed railways.

39. The only Company which is now engaged on railways in India without a "guarantee" is the Indian Tramway Company, and this Company finding itself unable to extend its present limited undertaking with the assistance at present granted to it, is endeavouring to obtain the concession of the usual guarantee of interest. The only scheme which the Directors have as yet submitted for the consideration of Government is that for extending their existing line (which goes from Arconum on the Madras Railway to Conjeveram) on to Pondicherry, the one remaining possession of the French in India, but they are ready to make any lines as branches to the main lines which circumstances may seem to require.

PERSONS EMPLOYED ON THE LINES.

40. The following table gives the number of Europeans employed on certain lines on the 30th October last. The returns from Bombay have not been received. As an example of the proportion in which Europeans and Natives are employed in certain situations, it may be mentioned that out of 114 station masters on the East Indian Railway, 35 are Europeans, receiving from 150 to 350 rupees a month; five are East Indians, receiving from 150 to 300 rupees, and 74 are Natives, receiving from Rs. 20 to Rs. 200.

PERSONS EMPLOYED ON THE LINES.

Railway.	Agent's Department.			Account Department.			Audit Department.			Locomotive and Carriage Department.			Traffic Department.		
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.
East Indian	26	367	393	12	342	354	29	277	306	867	7,164	8,031	515	4,339	4,854
Great Indian Peninsula															
Madras	15	30	45	2	71	73	6	79	85	350	2,331	2,861	130	1,298	1,428
Bombay and Baroda															
Scinde															
Punjaub	22	38	60	—	—	—	—	—	—	69	51	120	54	516	570
Delhi													2	1	3
Indus Flotilla															
Eastern Bengal	12	295	307	3	54	57	1	25	26	52	348	400	44	459	503
Calcutta and South-Eastern	3	6	9							12	6	18	8	91	99
Great Southern of India	20	57	77	—	—	—	—	—	—	56	714	770	4	153	157

PERSONS EMPLOYED ON THE LINES—*continued.*

Railway.	Engineers' Department.			Stores Department.			Telegraph Department.			Grand Total.			Number of Miles open for Traffic.	Number of Stations open.
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.		
East Indian	121	4,931	5,052	55	879	934	71	905	976	1,696	19,204	20,900	1,129	120
Great Indian Peninsula														
Madras	70	3,918	3,988	14	75	89	35	91	126	622	7,893	8,515	645	64
Bombay and Baroda														
Scinde														
Punjaub	14	52	66	7	22	29	31	38	69	229	781	1,010	253	19
Delhi	27	63	90	3	—	3	—	—	—				Nil.	Nil.
Indus Flotilla														
Eastern Bengal	37	1,334	1,371	2	51	53	7	59	66	158	2,625	2,783	110	21
Calcutta and South-Eastern	6	187	193	—	10	10	1	9	10	31	335	366	28	9
Great Southern of India	—	—	—	—	75	—	—	—	—	—	—	—	—	—

41. The average number of servants, European and East Indian, on the Railways during the half year ending the 30th June, was 8,001. The casualties amongst them from death and other causes will be seen in the following statement which has been received from India.

GENERAL ABSTRACT of CASUALTIES whether by Death, Resignation, or Discharge amongst the European and East Indian Employés of RAILWAY COMPANIES in INDIA, during the Half Year ending 30th June 1866.

Railways.	General.		Traffic Department.		Locomotive and Carriage Department.		Engineer Department.		Electric Telegraph Department.		Store Department.		Total Casualties of all kinds.		Total Casualties by Deaths.		Average Number of Servants during the Half Year.		Length in Miles.		Remarks.
	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Open.	Under construction.	
Madras	—	—	6	14	49	26	9	4	—	3	—	—	64	47	5	—	253	415	611	114	
Great Southern of India	—	2	—	—	1*	—	5	4	—	—	—	—	6	6	—	—	31	149	79	87½	* Time expired man.
Great Indian Peninsula	—	1	61	3	111	—	9	—	—	1	1	3	182	8	9	1	746	60	701½	371½	
Bombay, Baroda, and Central India	1	1	17	23	33	22	3	—	—	1	4	11	58	58	2	1	229	174	306	Nil.	
Sindh	—	1	1	—	7	1	1	—	—	—	—	—	9	2	1	1	2,400†		109	5	† This must include the Punjab and Delhi Railways as well.
Indus Steam Flotilla	3	—	—	—	—	—	6	—	—	—	—	—	9	—	—	—	84	1,080	—	—	
East Indian	5	2	68‡	28	196	77	21	4	—	12	6	3	296	126	25‡	4	1,943		1,129	367½	‡ 1 killed by accident.
Eastern Bengal	—	—	9	10	21	—	5	3	—	—	1	—	36	13	2	1	127	31	110	45	
Calcutta and South-Eastern	—	—	1	3	7	—	1	—	—	—	—	—	9	3	—	—	15	15	28	Nil.	
Punjab and Delhi	—	2	—	12	1	16	—	3	—	—	—	—	33	1	1	—	229		253	303½	
Grand Total	11	7	175	82	441	126	63	15	—	17	12	17	702	264	45	8	8,001		23	¼ 1,461	

ACCIDENTS.

42. The official returns of accidents have not been received from India. I am consequently, only able to furnish the following statement which is compiled from information supplied to me by the Railway Companies in this country.

Railway Company.	Passengers Killed or Injured from Causes beyond their Control.		Passengers Killed or Injured from Misconduct or Incaution.		Railway Servants Killed or Injured from Causes beyond their Control.		Railway Servants Killed or Injured from their own Misconduct or Incaution.		Persons Killed or Injured at Level Crossings.		Trespassers.		Miscellaneous.		Remarks.
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	
East Indian	Returns not received.														
Great Indian Peninsula	—	—	1	—	9	2	14	—	—	—	6	—	1	—	The passenger killed was a Native woman, who went under a waggon to avoid the sun, when an engine moved the waggon, and she was crushed.
Madras	—	—	—	—	1	—	—	—	—	—	5	—	2	—	Four of the cases of trespassers were supposed to be suicides.
Bombay and Baroda	1	—	1	—	1	—	7	—	—	—	3	—	3	—	The first of these was a boy, who was found dead in a third-class carriage. The other was run over in the act of jumping from a third-class carriage, to avoid payment of his fare.
Scinde	—	—	—	—	3	—	3	—	—	—	—	—	2	—	
Punjab	—	—	—	—	2	1	3	—	1	—	—	—	—	—	
Eastern Bengal	—	—	—	—	—	—	6	—	—	—	—	—	1	—	
Calcutta and South-Eastern	—	—	—	1	—	1	—	—	—	—	—	—	—	—	
Great Southern	—	—	—	—	1	—	2	—	—	—	—	—	—	—	
Total*	1	—	2	1	17	4	35	—	1	—	14	—	9	—	

* Exclusive of the East Indian Railway.

43. It would appear, from these returns, that the traffic has been carefully and safely conducted. The only passenger whose death is reported to have arisen from causes beyond his control was a boy who was "found dead" in a third-class carriage. No particulars of the occurrence have been sent home; but illness was the cause, so that no blame was attached to the Railway Company. The list of fatal cases is unfortunately swelled by the apparent recklessness and carelessness of Native servants, and by trespassers, several of which latter purposely placed themselves in danger.

CAPITAL.

Note.—This being the first time when the official year has terminated on the 31st March instead of the 30th April, the last month of the previous year 1865–66, has been added to the eleven months ending on the 31st March 1867, in order to exhibit the Capital, Expenditure, and Receipts for a whole year in the tables which follow.

Capital. Aggregate Amount of Capital raised to 1st April 1867.

44. The total amount of capital raised by all the guaranteed Companies up to the 1st April last, was 67,254,802*l.*, of which 51,800,377*l.* consisted of share capital, 6,707,705*l.* of debentures convertible into shares, and 8,746,720*l.* of debentures not so convertible.

Total expenditure up to 1st April 1867.

45. The expenditure up to the same date amounted to 67,932,550*l.*, showing an excess over the sum raised of 677,748*l.* It will be seen by referring to the second table of the three that follow, that certain Companies, up to the 31st March last, had received advances to the amount of 1,754,930*l.*, and that a balance of 1,077,182*l.* stands to the credit of others, leaving a net balance of 677,748*l.* to the debit collectively of the Bombay and Baroda, the Scinde, Punjab, Delhi, and Indus Flotilla, the Great Southern, and the Calcutta and South-Eastern Railway Companies. Since that date the amount of these advances has been reduced, and it is hoped that in a short time each Company will have a reasonable balance to its credit.

Expenditure during official year, from 1st April 1866 to 31st March 1867.

46. The expenditure during the year 1866–67, was 7,759,555*l.*, of which 3,942,598*l.* was incurred in England and 3,816,957*l.* in India. This is nearly 1,000,000*l.* in excess of what was estimated at the beginning of last year. The total sum which it was then calculated would be expended upon the railways before the whole of them are completed with a moderate extent of double line was 81,000,000*l.* This was exclusive of the Indian Branch Railway Company (which has since been added to the list of guaranteed Companies) and of the doubling of portions of the Great Indian Peninsula Railway which have since been ordered. The estimated amount for sanctioned lines will thus be increased to about 88,000,000*l.*

Estimated expenditure for 1867–68.

47. The estimated expenditure for the current year to the 31st March 1868, exclusive of that by the Indian Branch Company, is 6,442,750*l.*, of which it is expected 3,985,500*l.* will be required for India and 2,457,250*l.* for this country.

Statement No. 1.

Showing the Amount raised and expended by each Company during the year ended 31st March 1867.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1866.	Sums advanced to the Companies 31st March 1866.	Amount raised between 1st April 1866 and 31st March 1867.		Amount expended				Total Raised during the Year ended 31st March 1867.	Total Expended during the Year ended 31st March 1867, (partly estimated).
			By Shares or by converting Debentures into Stock.	By Debentures.	In England, between 1st April 1866 and 31st March 1867.	In India.				
						Date to which Accounts have been received.	Amount.	Estimated Expenditure between dates specified and 31st March 1867.		
	£	£	£	£	£		£	£	£	£
East Indian - - -	370,200	—	1,201,076	888,980	1,131,295	31st Jan. 1867	970,759	200,000	2,090,056	2,302,054
Great Indian Peninsula - -	599,281	—	690,814	1,232,950	886,930	30th Nov. 1866	618,066	300,000	1,923,764	1,804,996
Madras - - - -	66,404	—	178,727	376,900	213,262	31st Jan. 1867	191,368	40,000	555,627	444,630
Scinde - - - -	21,102	—	—	—	60,149	30th Nov. 1866	28,281	28,000	—	116,430
Indus Flotilla - - -	—	63,250	—	—	146,131	31st Oct. 1866	4,720	4,000	—	154,851
Punjab - - - -	—	299,894	2,225	—	31,793	31st Jan. 1867	136,299	20,000	2,225	188,092
Delhi - - - -	279,506	—	893,015	—	757,427	,,	466,426	100,000	893,015	1,323,853
Bombay, Baroda, and Central India	—	448,618	360,509	478,700	382,830	30th Nov. 1866	327,709	120,000	839,209	830,539
Eastern Bengal - - -	60,932	—	215,472	10,500	142,344	31st Jan. 1867	101,030	20,000	225,972	263,374
Calcutta and South-Eastern -	—	35,426	1,595	—	87,682	,,	23,429	6,000	1,595	117,111
Great Southern - - -	—	126,990	126,000	1,100	102,755	,,	90,870	20,000	127,100	213,625
Total - -	1,397,425	974,178	3,669,433	2,989,130	3,942,598	—	2,958,957	858,000	6,658,563	7,759,555
	Net Balance - £423,247									

Accountant General's Department,
17th April 1867.

W. G. Goodliffe,
Accountant General.

Statement No. 2.

Estimated Expenditure for the Year 1867–68 on Capital and Revenue Account.

Railway.	Estimated Expenditure from 1st April 1867 to 31st March 1868.			Sum standing to the Credit or Debit of the Companies on the 1st April 1867 (partly estimated).	Sums to be raised by the Companies during 1867–68.	Total Amount now placed and to be placed in the Home Treasury of Government for 1867–68.	Estimated Balance on the 1st April 1868.
	In England.	In India.	Total.				
	£	£	£	£	£	£	£
East Indian	500,000	1,000,000	1,500,000	158,201	1,491,799	1,650,000	150,000
Great Indian Peninsula	500,000	1,000,000	1,500,000	718,049	981,951	1,700,000	200,000
Madras	500,000	483,000	983,000	177,402	905,598	1,083,000	100,000
Bombay, Baroda, and Central India	250,000	360,000	610,000	Dr. 439,948	1,099,948	1,099,948	50,000
Scinde	60,750	80,000	140,750	Dr. 95,327	246,077	246,077	10,000
Punjab	63,000	50,000	113,000	Dr. 485,762	608,762	608,762	10,000
Delhi	410,000	500,000	910,000	Dr. 151,333	1,161,333	1,161,333	100,000
Indus Flotilla	30,000	30,000	60,000	Dr. 218,101	288,101	288,101	10,000
Eastern Bengal	110,000	176,000	286,000	23,530	312,470	336,000	50,000
Great Southern of India	30,000	300,000	330,000	Dr. 213,515	553,515	553,515	10,000
Calcutta and South-Eastern	3,500	6,500	10,000	Dr. 150,944	—	—	Dr. 160,944
Total	*2,457,250	*3,985,500	*6,442,750	Dr. 1,754,930 Cr. 1,077,182 Net Dr. 677,748	7,649,554	8,726,736	529,056

* Exclusive of the Indian Branch Railway Company.

Statement No. 3.

Showing the Amount of Capital estimated to be required for each Undertaking as now sanctioned, the Amount authorized to be raised, the Amount raised, and the Amount expended, to 31st March 1867.

Railway.	Amount estimated to be required for the Undertaking as now sanctioned with a certain length of double Line.	Amount authorized by Government to be raised up to 31st March 1867.				Amount raised in England to 31st March 1867.			Amount raised in India to Date of last Advices.	Total raised to 31st March 1867.	Total Amount advanced for Expenditure to 31st March 1867 (partly estimated).
		Share Capital.	Debentures.		Total.	By Shares.	By Debentures.				
			Convertible into Shares.	Inconvertible.			Convertible.	Inconvertible.			
	£	£	£	£	£	£	£	£	£	£	£
East Indian - { Main line - -	27,000,000	18,445,000	2,555,000	3,000,000	24,000,000	17,444,150	2,523,900	2,995,920	285,743	23,249,713	24,224,895
{ Jubbulpore line -	3,600,000	2,078,340	1,121,660	—	3,200,000	2,030,505	1,121,660	—	7,665	3,159,830	2,026,447
Great Indian Peninsula - -	18,000,000	13,000,000	—	4,000,000	17,000,000	11,865,367	—	4,000,000	385,243	16,250,610	15,532,561
Madras - { Main line - -	6,250,000	4,050,950	1,638,050	311,000	6,000,000	3,568,830	1,484,950	311,000	—	5,364,780	5,947,776
{ Bellary line -	4,500,000	3,000,000	—	—	3,000,000	2,996,246	—	—	—	2,996,246	2,235,848
Scinde - - - -	2,250,000	1,919,200	180,800	150,000	2,250,000	1,647,155	180,800	150,000	21,695	1,999,650	2,094,977
Indus Flotilla - - -	700,000	542,600	81,400	—	624,000	306,005	25,400	—	—	331,405	549,506
Punjab - - - -	2,800,000	1,900,000	100,000	500,000	2,500,000	1,529,254	—	500,000	9,459	2,038,713	2,524,475
Delhi - - - - -	6,000,000	5,000,000	—	—	5,000,000	1,934,774	—	—	6,740	1,941,514	2,092,847
Bombay, Baroda, and Central India	7,500,000	5,973,650	1,176,350	100,000	7,250,000	5,194,319	1,167,345	79,300	21,664	6,462,628	6,902,576
Eastern Bengal - - -	2,800,000	1,500,000	—	662,000	2,162,000	1,368,415	—	610,500	10,754	1,989,669	1,966,139
Calcutta and South-Eastern -	600,000	329,300	270,700	—	600,000	308,877	112,850	—	20,517	442,244	593,188
Great Southern - - - -	1,700,000	874,500	125,500	150,000	1,150,000	835,779	90,800	100,000	1,221	1,027,800	1,241,315
Total - - -	*83,700,000	58,613,540	7,249,460	8,873,000	74,736,000	51,029,676	6,707,705	8,746,720	770,701	67,254,802	67,932,550

* To which will have to be added the Indian Branch Railway, with an estimated capital of (say) 4,500,000*l.*

Accountant General's Department,
17th April 1867.

W. G. Goodliffe,
Accountant General.

48. At the commencement of the year the debenture loans (the principal as well as the interest of which is guaranteed by the Government), amounted to 13,457,539*l.*, of which 6,096,539*l.* were convertible in shares, and 7,361,000*l.* not so convertible. Some have expired during the year and have been paid off, others have been renewed and fresh debentures have been issued, making the present amounts 7,249,460*l.* convertible, and 8,873,000*l.* inconvertible. I may here observe, that it has been determined to restrict as far as possible the raising capital by means of debentures, especially by those debentures which are not convertible into stock. The creation of debenture stock has, however, been sanctioned in the case of the Great Indian Peninsula Railway, and this plan may be extended to other Companies in similar circumstances. Debentures.

49. The following statement presents a view of the existing state of the debenture debt of each Company.

Present State of Debenture Loans.

Railway.	Amount.	Total Amounts.	Conditions.	Date at which Loan expires.
	£	£		
East Indian - - -	50,000		Convertible - -	10th July 1867.
„ - - -	40,200		Ditto - - -	5th April 1869.
„ - - -	10,800		Ditto - - -	10th July 1869.
„ - - -	461,440		Ditto - - -	5th Oct. 1869.
„ - - -	190,000		Ditto - - -	20th Jan. 1870.
„ - - -	1,121,160		Convertible and renewable	23d March 1870.
„ - - -	1,500,000		Inconvertible - -	10th Aug. 1870.
„ - - -	1,500,000		Ditto - - -	15th Dec. 1870.
„ - -	769,000		Convertible - - -	1st April 1871.
„ - - -	1,000,000	6,642,600	Ditto and renewable -	9th Aug. 1871.
Madras - - - -	1,795,550	1,795,550	Part convertible and inconvertible.	1869, 1870, 1871, and 1872.
Great Indian Peninsula - -	4,000,000	4,000,000	Part renewable and all inconvertible.	1867, 1869, 1870, 1871, 1872, and 1873.
Sind - - -	330,800	330,800	Part convertible and inconvertible.	Sept. 1868, and May and Sept. 1870.
Indus Flotilla - - -	25,400	25,400	Convertible - -	1st May 1871.
Punjab - - - -	500,000	500,000	Inconvertible - -	July 1868 and July 1870.
Bombay, Baroda, and Central India	278,595		Convertible and renewable	1867 or 1872.
„ „ „ -	79,300		Inconvertible - -	1871.
„ „ „ -	396,600		Convertible and renewable	1870 or 1875.
„ „ „ -	495,100	1,249,595	Ditto - - -	1871 or 1876.
Eastern Bengal - - -	610,500	610,500	Inconvertible and part renewable.	1869 and 1871.
Calcutta and South-Eastern -	100,000		Convertible and renewable	1st Jan. 1870.
„ „ -	12,850	112,850	Convertible - -	1st. Jan. 1871.
Great Southern of India - -	104,800		Ditto - - -	1870, 1871, 1872, and 1874.
„ „ „ - -	100,000	204,800	Inconvertible - -	Jan. and July 1871.

50. The following table shows the sums that have been annually expended since the commencement of operations, and the mileage completed in each year. Capital Expenditure each year.

As the expenditure applies to the works in progress, as well as to those which are finished, the mileage does not bear any relative proportion to the expenditure; this is particularly exemplified in the years 1859 and 1862:—

Year.	Miles opened during the Year.	Expended in England.	Expended in India.	Total.
		£	£	£
Up to 1850 -	—	130,375	44,781	175,156
In 1851 -	—	154,212	197,111	351,323
„ 1852 -	—	174,920	252,640	427,560
„ 1853 -	22½	252,484	418,165	670,649
„ 1854 -	50¼	960,878	768,710	1,729,588
„ 1855 -	98¾	1,939,101	1,431,904	3,371,005
„ 1856 -	101¾	1,752,813	1,765,094	3,517,907
„ 1857 -	143	1,324,873	2,092,395	3,417,268
„ 1858 -	145	1,940,052	3,551,073	5,491,125
„ 1859 -	74½	2,507,949	4,654,923	7,162,872
„ 1860 -	208	2,396,924	5,192,846	7,589,770
„ 1861 -	759	1,596,010	4,962,604	6,558,614
„ 1862 -	747	1,854,289	3,956,563	5,810,852
„ 1863 -	233½	1,411,661	3,360,114	4,771,775
„ 1864 -	402½	1,387,699	2,418,345	3,806,044
„ 1865 -	388½	2,192,090	3,192,323	5,384,413
„ 1866 -	205	3,942,598	3,816,957	7,759,555

51. The following statement shows the manner in which the expenditure has been incurred:—

Railway.	Works and Bridges.	Permanent Way and Stations.	Freight and Insurance.	Rolling Stock and Engines.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian - - - -	8,500,000	6,220,000	2,550,000	2,880,000	3,220,000	2,302,000
Great Indian Peninsula - -	6,219,000	4,135,000	1,623,000 Including certain stores.	1,448,000	1,057,000	143,336
Madras - - - -	2,314,800	2,842,503	—	609,888	659,036	331,650
Bombay, Baroda, and Central India -	2,442,000	1,435,337	547,152	779,763	422,134	745,015
Scinde - - - -	401,872	333,720	176,082	172,647	259,368	462,448
Punjab - - - -	211,372	667,300	438,070	338,931	307,889	397,516
Delhi - - - -	502,180	796,871	10,886	106,950	88,104	164,205
Indus Flotilla - - -	—	Steamers and Barges. 383,888	27,575	31,048	56,580	68,917
Eastern Bengal - - -	521,882	610,405	145,632	174,282	194,500	143,286
Calcutta and South-Eastern - -	135,200	210,800	— Included under other heads	136,200	77,300	22,000
Great Southern - - -	293,327		120,246	50,145	49,048	87,852

REVENUE.

Revenue and Traffic.

52. The past year will be memorable as the one in which the receipts of some of the railways for the first time exceeded the 5 per cent. guaranteed interest. In the half year ending the 30th June, the East Indian Railway realized Rs. 10,80,736 and the Great Indian Peninsula Rs. 7,58,782 beyond the amounts advanced for guaranteed interest. In accordance with the terms of the contract, half these amounts, viz., Rs. 9,19,759, was retained by the Government in repayment of former advances for interest, and the other half was remitted to this country and was used to augment the half yearly dividend of the shareholders by a quarter per cent. The guaranteed interest, I should observe, which was thus exceeded by the receipts, was paid on an amount of capital greater than that which produced those receipts, a large portion having been expended upon unfinished works or lines not opened for traffic, and consequently unprofitable. But while this satisfactory event will make this year notable in the history of Indian railways, the traffic generally has been subject to the adverse circumstances described in the early part

of this report, and the advance which it made in the early part of the year was not continued in the latter part. But an improvement has taken place since, especially in the goods traffic, and there is every prospects of a further improvement. The net revenue derived from the open lines in 1864–65 was 1,341,550*l.* Last year it was 2,261,180*l.* of which, as before explained, a portion was paid to shareholders in excess of the 5 per cent., leaving a sum of about 2,170,000*l.* to be paid into the Government treasury. The amounts paid for guaranteed interest during the same years were 2,796,676*l.* and 2,964,073*l.* respectively, but the earnings of the Railways reduced the net payments by the Government to about 1,500,000*l.* and 800,000*l.* for the two periods.

53. The following table gives the receipts and expenses of the railways for the year ending 30th June last.

Railway.	Receipts for Year ending 30th June 1866.				Expenses for Year ending 30th June 1866.			Net Receipts for the Year ending 30th June 1866.	
	Passengers, &c.	Goods and Minerals.	Telegraph or Sundries.	Total.	Working.	Maintenance.	Total.		
	£	£	£	£	£	£	£	£	
East Indian - - -	523,078	1,304,180	93,050	1,920,308	649,311	190,112	839,423	1,080,885	
Great Indian Peninsula -	264,729	1,188,945	47,052	1,430,726	609,683	137,605	747,288	683,438	
Madras: S.W. and N.W. Lines -	168,890	260,159	9,738	438,787	132,000	57,415	189,415	249,372	
Bombay and Baroda - -	196,708	228,476	4,813	429,996	209,069	45,151	254,220	175,776	
Scinde - - - -	6,691	46,475	—	53,166	—	—	43,083	10,083	
Punjab - - - -	27,839	58,981	3,449	90,269	47,035	7,839	54,874	25,395	
Eastern Bengal - - -	62,501	54,537	7,854	124,892	54,195	12,911	67,106	57,786	
Calcutta and South-Eastern -	8,009	2,884	318	11,211	9,232	3,326	12,558	*1,347	* Deficit.
Great Southern - - -	20,135	17,096	649	37,880	13,562	4,466	18,028	19,852	
Total - -	1,278,580	3,091,723	166,923	4,537,235	1,724,387	458,825	2,225,495	2,304,534	

54. The following table shows the net receipts, for the year ending 31st December last, of those Companies whose accounts have been settled up to that time, as well as the amount paid for guaranteed interest during the same period and the estimated amount of capital expended upon the lines which earned the profits as given.

PROFITS FOR THE YEAR 1866.

Railway.	Net Receipts for year ending 31st December 1865.	Net Receipts for year ending 31st December 1866.	Guaranteed Interest paid during year 1866.	Capital (including Debentures), paid up on 31st December 1866, receiving the Guaranteed Interest in previous Column.	Estimated Amount of Capital expended on open Lines.	Guaranteed Interest, at 5 per Cent., upon Amounts in previous Column.
	£	£	£	£	£	£
East Indian - - -	928,750	1,119,315	1,203,019	25,577,279	22,500,000	1,125,000
Great Indian Peninsula -	480,494	536,334	679,441	15,105,316	11,500,000	575,000
Madras - - -	219,452	237,749	388,459	8,258,189	7,500,000	375,000
Bombay, Baroda, and Central India - -	117,576	*114,455	277,326	6,170,598	6,170,000	308,500
Eastern Bengal - -	61,270	63,713	85,710	1,870,222	1,600,000	80,000
Great Southern of India	17,785	24,699	44,192	988,100	650,000	32,500
	1,825,327	2,096,265	2,678,147	57,969,704	49,920,000	2,496,000

* Partly estimated.

55. The least remunerative of the railways are not included in this statement in consequence of their accounts for the second half of last year not having been received. But taking the above six lines, it will appear that their earnings last year fell short of the guaranteed interest paid to them by 581,882*l.*, and that the interest upon the estimated amount of capital expended upon the works which produced the earnings in question was hardly 400,000*l.* in excess of those earnings.

56. The statements which follow correspond with the returns relating to English railways, made annually to Parliament through the Board of Trade, and furnishes particulars relating to the passenger and goods traffic, and the working charges of the line during the half years ending 31st December 1865 and 30th June 1866.

STATEMENT of TRAFFIC RESULTS of the Year ending 30th June 1866.

	Length of Line Open.			Passenger Traffic.					Goods Traffic.									Number of Trains run.		
				Number of Passengers (exclusive of Holders of Season and Periodical Tickets).				Number of Holders of Season and Periodical Tickets.				Live Stock.			Minerals.					
	Double.	Single.	Total.	1st Class.	2d Class.	3d Class, including Parliamentary.	Total Passengers.		Carriages.	Horses.	Dogs.	Cattle.	Sheep.	Pigs.	Coal and Coke.	Other Minerals.	Total.	General Merchandise.	Passenger Trains.	Goods Trains.	Total.
												No.	No.	No.	Tons.	Tons.	Tons.	Tons.			
East Indian - - Half-year to,—31st December 1865	—	—	1,129½	15,657	41,866	3d Class intermediate. 2,008,776	2,066,299	—	—	—	—	—	—	—	—	—	—	360,090	—	—	—
East Indian - - 30th June 1866	—	—	1,129½	15,426	39,752	3d Class intermediate. 2,044,529	2,099,737	—	—	—	—	—	—	—	—	—	—	399,495	—	—	—
Madras - - - 31st December 1865	—	598	598	4,762	44,911	842,667	892,340	—	496	1,842	1,544	Total Live Stock. 2,100		2,109	—	—	—	196,509	—	—	5,972
Madras - - - 30th June 1866	—	611	611	3,738	37,094	860,568	901,400	—	495	2,312	1,503	1,855		1,855	—	—	—	159,702	—	—	4,720
Great Indian Peninsula - - - 30th June 1866	333	367	701	20 006	118,938	1,461,531	1,600,475	529	339	1,783	2,086	118	127,107	10	23,036	387,550	411,486	345,017	6,998	13,469	20,467
Great Indian Peninsula - - - 31st December 1866	58	764	822	17,578	115,495	1,158,535	1,291,628	549	420	2,201	2,017	307	133,823	9	32,181	278,415	310,596	150,318	7,925	10,667	18,592
Scinde - - - 31st December 1865	5	100	105	1,006	2,085	49,522	52,613	—	21	162	404	—	263	—	—	—	—	99,450	38	308	—
Scinde - - - 30th June 1866	5	104	109	1,478	3,380	84,772	89,630	1,418	27	166	497	—	344	—	—	—	—	86,972	3	776	—
Indus Flotilla - - 31st December 1865																					
Indus Flotilla - - 30th June 1866																					
Punjaub - - - 31st December 1865	—	253	253	2,316	6,610	297,126	246,052	—	4	40	531	—	—	—	—	—	—	48,293	2,291	308	2,599
Punjaub - - - 30th June 1866	—	253	253	2,890	7,707½	265,667	276,264½	1	18	142	801	7	—	—	—	—	—	42,941½	1,674½	851	2,525
Delhi - - - 31st December 1865																					
Delhi - - - 30th June 1866																					
Bombay, Baroda, and Central India - - 31st December 1865	—	306	306	3,823	21,466	682,961	708,250	—	129	989	604	5,175	101,649	—	4,296	296	4,592	51,751	776	1,968	3,442
Bombay, Baroda, and Central India - - 30th June 1866	—	306	306	4,813	25,285	765,827	795,925	—	162	657	308	1,478	126,582	—	8,715	3,078	11,793	80,665	410	805	5,651
Eastern Bengal - - 31st December 1865	—	—	—	21,279	23,662	538,955	583,896	—	—	—	—	—	—	—	—	—	6,941	37,400	—	Mixed. 698	—
Eastern Bengal - - 30th June 1866	—	—	—	23,406	19,590	552,891	596,097	—	—	—	—	—	—	—	—	—	8,479	54,103	—	1,629	—
Calcutta and South-Eastern - - 31st December 1865	—	28	28	2,618	8,764	151,935	163,317	—	—	—	—	—	—	—	—	—	—	—	—	2,807	—
Calcutta and South-Eastern - - 30th June 1866	—	28	28	2,760	13,220	177,714	193,709	—	6	8	62	12	128	—	242	66	308	9,032	1,036	4	1,040
Great Southern of India - - 31st December 1865	—	—	79	490	2,295	198,863	201,448	—	—	—	—	—	—	—	—	—	—	24,655	—	—	—
Great Southern of India - - 30th June 1866	—	—	79	660	2,404	196,794	199,858	—	—	—	—	—	—	—	—	—	— {	20,416 5,579	—	—	—

STATEMENT of TRAFFIC RESULTS—*continued.*

		Number of Miles travelled by Trains.			Average Fares per Mile.				Receipts (Gross) from Passenger Traffic.							Receipts (Gross) from Goods Traffic.						Receipts per Train Mile.	Cost per Train Mile.
					Ordinary.			Express.	Receipts from Passengers.					Total Receipts from Excess of Luggage, Parcels, Carriages, Dogs, &c., conveyed in Passenger Trains.	Receipts from Mails.	Total Receipts from Passenger Traffic.	Minerals.				General Merchandise.	Total Receipts from Goods Traffic.	Total Receipts from all Sources of Traffic.		
		By Passenger Trains.	By Goods Trains.	Total.	1st Class.	2d Class.	3d Class or Parliamentary.	1st Class.	2d Class.	1st Class.	2d Class.	3d Class, including Parliamentary.	Holders of Season and Periodical Tickets.	Total from Passengers.				Live Stock.	Coal and Coke.	Other Minerals.	Total.				
										£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	s. d.	s. d.
East Indian	Half year to— 31st December 1865	—	—	2,205,223	—	—	—	—	—	—	—	—	—	—	—	—	307,930	—	—	—	—	59,068	487,822	546,890	854,820	7 9	3 8
	30th June 1866	—	—	2,420,482	—	—	—	—	—	—	—	—	—	—	—	—	293,922	—	—	—	—	55,259	720,468	775,727	1,069,719	8 9	3 7·75
Madras	31st December 1865	—	—	671,552	2·06	·69	·34	—	—	4,845	7,120	57,348	Return tickets. 2,111	72,022	11,178	—	83,200	247	—	—	—	141,666 including miscellaneous receipts.	136,969	225,113	6 8·47	2 9·30
	30th June 1866	—	—	635,446	2·06	·69	·34	—	—	4,844	7,352	59,832	3,190	75,218	10,473	—	85,691	301	—	—	—	227,634	123,190	213,676	6 8·68	3 0·19
Great Indian Peninsula	30th June 1866	457,418	784,218	1,241,636	1·5	·75	·23	—	—	7,239	12,794	116,508	847	137,468	21,736	—	159,194	2,909	7,715	27,892	38,107	614,118	652,134	811,328	13 0·75	6 1·2
	31st December 1866	534,065	484,192	1,018,197	1·5	·75	·25	—	—	9,109	15,993	110,635 including coolies.	816	136,564	20,860	—	157,424	4,621	13,063	23,486	37,149	235,887	277,657	435,081	8 6·5	6 8
Scinde	31st December 1865	0,446	—	124,785	1·22	·83	·4	—	—	475	604	6,265	1	7,404	762	—	8,166	4	—	—	—	34,256	34,260	43,457	6 11·61	6 3·85
	30th June 1866	134	—	133,327	1·25	·83	·4	—	—	641	607	5,714	33	6,815	673	—	7,488	5	—	—	—	45,255	45,260	53,877	6 4·81	5 1·30
Indus Flotilla	31st December 1865																									
	30th June 1866																									
Punjaub	31st December 1865	159,966	1,778	161,744	3·25	1·5	·75	—	—	703	1,126	11,504	6	13,340	1,786	41	15,167	—	—	—	—	22,487	22,487	37,605	4 7·78	2 8·65
	30th June 1866	123,152	69,343	192,495	3·25	1·5	·75	—	—	909	1,171	12,412	6	14,499	1,582	31	16,119	1	—	—	—	36,541	36,543	52,662	5 5·66	3 4·82
Delhi	31st December 1865																									
	30th June 1866																									
Bombay, Baroda, and Central India	31st December 1865	186,437	142,847	329,284	1·875	1·	·5	—	—	1,684	5,540	74,821	—	82,345	11,400	—	93,745	3,959	3,822	364	8,186	84,685	92,810	191,308	11 3·94	6 9·79
	30th June 1866	173,022	243,654	416,677	1·875	1·	·5	—	—	2,486	5,967	85,715	—	94,168	8,795	—	102,963	4,968	7,178	1,232	8,410	122,238	135,666	238,629	11 6·45	6 6·75
Eastern Bengal	31st December 1865	84,664	75,901	160,565	1·375	·69	·46	2·06	1·375	2,244	1,547	27,053	—	30,844	2,832	—	33,676	129	—	—	1,964	22,374	23,467	57,266	7 0·5	4 0·2
	30th June 1866	85,880	79,048	164,928	1·5	·75	·5	—	—	2,130	1,250	28,248	—	31,658	2,735	—	34,493	101	—	—	2,133	30,512	32,746	67,626	8 3·2	4 2·72
Calcutta and South-Eastern	31st December 1865	29,456	1,344	30,800	1·36	·68	·34	—	—	231	490	2,084	—	3,305	187	—	3,552	—	—	54	54	1,035	1,089	4,641	3 0·170	3 7·84
	30th June 1866	29,254	112	29,366	1·35	·68	·34	—	—	410	643	3,197	—	4,250	906	—	4,437	—	—	—	86 Sundries.	2,067	2,113	6,570	4 5·699	4 6·25
Great Southern of India	31st December 1865	—	—	71,342	1·5	1·	·5	—	—	119	287	9,204	—	9,610	438	—	10,048	—	—	—	318	8,269	8,587	18,635	5 2	2 7·31
	30th June 1866	—	—	78,111	1·5	1·	·5	—	—	137	283	9,166	—	9,606	481	—	10,087	—	—	—	331	8,827	9,158	19,245	4 11	2 2·80
	Total	—	—	10,120,920	—	—	—	—	—	—	—	—	—	—	—	—	1,427,302	—	—	—	—	—	2,966,442	—	—	—

57. The following statement shows the expenditure on revenue account during the half years ending 31st December 1865, and 30th June 1866, in the different Departments of the railway.

CHARGES for Maintenance and Working.

Railway.	Miles open.	Maintenance.		Locomotive.		Repairs to Rolling Stock.		Traffic.		Compensation.		Legal and Parliamentary.		Miscellaneous.	
		Half Year ending 31st Dec. 1865.	Half Year ending 30th June 1866.	Half Year ending 31st Dec. 1865.	Half Year ending 30th June 1866.	Half Year ending 31st Dec. 1865.	Half Year ending 30th June 1866.	Half Year ending 31st Dec. 1865.	Half Year ending 30th June 1866.	Half Year ending 31st Dec. 1865.	Half Year ending 30th June 1866.	1865.	1866.	Half Year ending 31st Dec. 1865.	Half Year ending 30th June 1866.
		£	£	£	£	£	£	£	£	£	£			£	£
East Indian	—	98,841	91,770	153,207	161,871	23,545	32,382	61,794	74,610	6,179	7,211	—	—	50,031	73,473
Great Indian Peninsula	—	—	80,123	—	143,833	—	42,500	—	79,549	—	7,688	—	—	—	25,296
Madras { South-West	492	26,302	23,448	34,602	30,702	2,461	2,486	14,274	16,707	239	349	213	64	6,525	7,763
Madras { North-West	106	1,287	1,379	4,806	4,132	372	378	1,709	2,451	9	5	—	3	749	869
Scinde	—	13,349	10,530	12,841	15,318	3,438	5,281	5,487	8,070	37	43	71	9	4,236	3,877
Punjaub	—	1,305	1,260	8,449	12,561	1,723	3,563	4,767	7,319	75	104	—	—	5,807	7,939
Bombay, Baroda, and Central India	306	25,361	19,791	38,233	50,696	6,0001	25,307	16,164	19,805	931	4,273	85	—	16,471	20,202
Eastern Bengal	110	6,126	6,784	10,980	11,114	1,208	1,325	8,217	9,611	15	—	514	33	4,971	5,694
Calcutta and South-Eastern	28	1,127	1,290	2,017	2,198	181	222	1,511	1,670	395	24	21	67	665	1,038
Great Southern	79	2,733	1,732	4,909	5,175	—	—	1,160	1,267	—	—	—	—	502	548

Interest on deposits of revenue paid into the Government Treasury.

58. A new source of revenue has been recognized during the past year, in the shape of interest on revenue deposits. It is one of the conditions of the contracts between the Government and the Railway Companies that all the earnings of the railways shall be paid into the Government Treasury, at such times and in such manner as the Government shall direct. The practice is to pay in these earnings weekly, the revenue account being made up half-yearly. The Government thus become, as it were, bankers for the Company for the time being. In the early part of last year it was decided that the Railway Companies, being by this arrangement precluded from obtaining interest for their money from the banks, should be allowed by Government interest, at the rate of 5 per cent. per annum, upon such sums as may be in the hands of Government at the expiration of each month, arising from the traffic receipts beyond the amounts necessary to be kept as a balance for current expenditure. The amount thus paid for interest is regarded as an earning of the railway, and is added to the revenue receipts at the close of each half year. These receipts are, it is well known, applied, first, towards the discharge of the guaranteed interest for the half year, and the residue, if any, is paid, one half to the Government, for the guaranteed interest advanced in former years, the other half to the Railway Company. The arrangement came into operation on the 1st July last.

TRAFFIC AND WORKING.

Traffic and working.

59. Various questions connected with the traffic and working of the railways have engaged the attention of the Government and the Railway Companies during the past year. The most prominent were those relating to the supply of fuel; the use of iron or wood for sleepers, and the employment of steel for rails; the formation of roads as feeders; and the rates and fares.

Fuel.

60. The importance of the fuel question can hardly be exaggerated. Cheap and dear fuel may, in some cases, be almost equivalent to success or failure. It will be seen by the following statement that the high rate of freights from this country at the present time makes the value of coal and coke, before it is landed in India, something like 50*s.* per ton. When to this is added the landing charges, and the cost of conveyance down the lines, the average cost of coal for the railways on the western and southern sides of India may be taken at about 60*s.* per ton. Thus, while the cost of coal per train mile on the East Indian Railway was $3\frac{1}{4}d.$, on the Great Indian Peninsula it was 1*s.* $6\frac{1}{4}d.$ last year.

COAL Exported from England.

Railway.		Coal and Coke sent out during 1865.	Cost in England.	Freight, &c.	Average Cost per Ton on arrival in India.	Estimated average Cost over the Line.
		Tons.	£	£	£ s. d.	£ s. d.
Great Indian Peninsula	Coal	37,569	20,952	58,623	2 2 4	3 0 0
	Coke	13,575	15,324	19,454	2 11 3	3 12 0
	Patent fuel	8,404	5,427	14,370	2 7 1	3 8 0
Madras	Coal	7,140	3,861	13,919	2 9 9½	3 0 0
Bombay and Baroda	„	37,219	19,462	60,585	2 3 0	2 18 0
Scinde	„	7,952	4,235	16,704	2 12 8	3 0 0
Great Southern	„	3,663	1,996	7,541	2 12 0½	2 18 0

61. A recent report by Mr. Oldham, the Superintendent of the Geological Survey of India, on the coal resources of the country, does not encourage the hope that coal will be found in many parts of India where it could be of very great value to the railways. "Viewed as a coal producing country," Professor Oldham says, "the British territories in India cannot be considered as either largely or widely "supplied with this essential source of motive power. Extensive coal fields do "occur, but these are not distributed generally over the districts of the Indian "Empire, but are almost entirely concentrated in one (a double) band of coal "yielding deposits which, with large interruptions, extends more than half across "India from near Calcutta towards Bombay." He adds further on in his report, "There still remains, however, much to be surveyed, and, until careful mapping "has been carried out of all the fields, any estimate of the coal resources and pro- "ductions of British India must be defective. . . . Up to the present time, it may "be said that little more than surface workings have been carried on in India. . . "In parts of the Raneegunge field these open workings are of marvellous extent "and size, covering hundreds of acres."

62. We may conclude from these remarks, that a supply of coal will be available for the lines passing through Bengal and Central India. The Bengal railways have, indeed, already obtained their fuel from the collieries near Raneegunge. The Central India coal has not been used by the Great Indian Peninsula Railway, as the line is not yet sufficiently near the collieries and the cost of conveying it by the road would make it too expensive. In the upper, western, and lower parts of India it may be presumed that the railways will not possess the advantage of native coal. The importance, therefore, of obtaining other sources of supply increases every year. Coal from Australia and from Labuan is being tried. But wood is what we must look to chiefly, if economy is to be secured. The subject has engaged the serious attention of Government, both at home and in India. Several despatches, pointing out the importance of the subject and suggesting the necessity of adopting immediate measures for increasing the plantation of suitable timber, have been addressed to the Government of India by the Secretary of State during the year. It has been calculated that a plantation of 20 acres will be the average proportion required to meet the requirements of every mile of railway, and Lord Cranborne observed that it was "evidently necessary that planting on an extensive scale "should take place annually for several years to come."

63. In some parts of India the cast-iron bowl sleeper answers admirably. In other parts, where there are difficulties in packing the iron sleeper (and this appears to be the case along the course of the East Indian line), wood is still preferred and has been found to answer. Several miles of steel rails have been sent out during the year. Their first cost is greater than iron, but for places where the traffic is greatest it has been calculated that the toughness and durability of the steel will enable it to stand more than three or four times the wear of the ordinary iron rail. Taking into consideration the cost that is incurred in sending the materials to their destination, a cost which, in some cases, where the inland

Iron and wood for sleepers.

Steel rails.

carriage is of considerable length, almost doubles the original price of the iron rails, it is worth, while within certain limits and for certain purposes, to purchase an article superior to that which is usually employed. But even in this country, where iron is at the door of the railways, steel is being used for rails to a greater extent every year.

Roads to the stations.

64. With respect to the formation of roads in connexion with the railways, some, but not very rapid, progress has been made in their construction. Many stations are without this necessary accommodation. Everybody acknowledges the importance of providing it, and a system of roads as feeders to each line has generally been approved by the Government. But the funds at the disposal of Government are not adequate to execute the works as promptly as could be desired. In the meanwhile the railway in some neighbourhoods is only available during the dry season and the development of the traffic is very much checked.

Rates and fares.

65. The rates and fares have in some places been slightly raised, in others lowered; but no material change has been made during the year. An experiment is being tried on the Great Indian Peninsula line to run "coolie" trains, corresponding with the trains for workmen on some of the English lines. The charge on such trains is at the rate of $\frac{1}{4}d.$ per mile. It has lately been determined by the Secretary of State in Council that the control over fares which under the contracts is given to the Government shall in future be exercised by establishing maximum rates and allowing the Railway Companies to charge under those rates what they consider most conducive to the development of traffic and to the interests of the railways. The Government thus have the opportunity of protecting the public from excessive charges and of securing to them the use of the railways on reasonable terms, and the railway executive are enabled, by watching various causes which influence traffic, to adjust rates to the circumstances of the times. I do not doubt that a true perception of their own interests and of the claims of the public will induce the railway authorities to provide, at moderate charges, every reasonable facility to all classes to use the railway. The following are the present rates of charge for passengers and goods.

Railway.	Passengers per Mile.								Goods per Ton per Mile.									
	1st Class.		2d Class.		3d Class.		4th Class.		1st Class.		2d Class.		3d Class.		4th Class.		5th Class.	
	Max.	Actual.	Max.	Actual.	Max.	Actual.	Max.	Actual.	Max.	Actual.	Max.	Actual.	Max.	Actual.	Max.	Actual.	Max.	Actual.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
East Indian	—	1¼	—	⅝	—	½	—	—	—	2	—	3	—	5½	—	6	—	1
Great Indian Peninsula	—	2¼	—	1½ In use.	—	⅜ In use.	—	¼ Coolies.	—	1⅓	—	2½ In use.	—	3 In use.	—	4½ In use.	—	6¾ In use.
Madras	*3	2½	1½	⅞	1	⅝	—	—	1½	1⅝	2½	1½	3	2	4½	3	6¾	4½
Bombay and Baroda	—	2½	—	1½	—	½	—	—	1⅓	1½	2½	1⅝	3	2½	4½	3½	6¾	5
Scinde	—	1½	—	⅞	—	⅜	—	—	1⅓	1½	2	1⅓	2½	2	4½	3½	6¾	4½
Punjaub	—	3½	—	1½	—	½	—	—	—	—	—	—	—	—	—	—	—	—
Eastern Bengal	—	1½	—	⅝	—	¼	—	⅛	—	1½	—	1½	—	2½	—	3½	—	8
Calcutta and South-Eastern	—	1½	—	⅝	—	⅜	—	⅛	—	1½	—	1⅝	—	2½	—	3½	—	8
Great Southern of India	3	1½	2	⅞	—	—	—	⅛	—	2½	—	3	—	4½	—	6	—	—
The average of 13 English Lines	—	2·63	—	1·93	—	·92	—	—	—	—	—	—	—	—	—	—	—	—

* Express and night trains higher.

Transit duties.

66. The opening of the Great Indian Peninsula Railway to Nagpore introduced railway communication for the first time into the Central Provinces, and soon exposed the inconvenience which transit duties will cause to railway traffic, unless some alteration is made in the law relating to their collection. The Central Provinces are under a different fiscal jurisdiction to that of Bombay. The duty per maund upon salt and sugar in the former is three rupees. In the latter it is two rupees. The extra charge of one rupee has accordingly to be levied upon all salt and sugar passing between Bombay and the Central Provinces; and, in order to collect the duty, trains on crossing the frontier line are stopped and examined. In consequence of the duty being greater than the value of the articles, there is temptation to smuggle, and to pass bags containing salt for other goods. All trains arriving at the frontier, whether freighted with salt or not, are subjected to the inconvenience and delay of being searched. Frontier duties thus obstruct all traffic. As railway communication is extended, and made to penetrate through Native States, in all of which there are different transit duties, the inconvenience will become serious, if the existing mode of collecting the tax is continued. In a Despatch, dated the 8th April last, a hope was expressed by yourself

"that some means may be devised whereby the collection of the frontier duties may be secured with only a minimum of interference with railway traffic."

Cause of interruptions on the East Indian Railway.

67. In my report of last year, I stated that certain blocks, which had occurred in the traffic of the East Indian Railway in 1865–66, were considered by the Government and Railway authorities in India to be attributable to a deficiency of rolling and locomotive stock. This representation led the Consulting Engineer to the Company, Mr. Rendel, to investigate the subject and with the help of statistics of the working of the line during the past year, he has, I think, conclusively shown that the blocks in question were not due to an insufficient supply of locomotive and rolling stock.

68. It appears, on examination, that the mileage run by the locomotives on this line during 1865–66 was very materially less that run by engines on English lines, and that a serious waste of power, both of locomotives and waggons, was occasioned by the manner in which the line was supplied with fuel.

69. In regard to waggons, it appears that, up to the early part of 1866, there was ironwork for waggons in store unused, and that therefore, if there was any deficiency of waggons in 1865–66, it was not caused by insufficient supplies from England. But a comparison of the stock available with the goods carried during the first and second halves of 1865and the first half of 1866, shows that the block of the second half of 1865 was due to other causes than the principal cause alleged. The traffic of the second half of 1866, and, so far as it is known, of that of the first half of the present year, which are both largely in excess of previous corresponding half years, confirm this view. Changes of management have now removed or alleviated many of the difficulties which occasioned the block, but it seems clear that the line cannot be worked with the minimum of stock,—the importance of which Mr. Rendel shows it is difficult to overrate,—until either the present station at Howrah has been adapted to the traffic which flows into it, or a new station is built on the Calcutta side of the river.

GUARANTEED INTEREST.

70. It will be seen by the following statement that a sum of 2,964,073*l.* was last year advanced by the Government on account of guaranteed interest. Against this has to be set a sum of about 2,150,000*l.*, which the Railway Companies earned, reducing the net amount paid by Government to about 800,000*l.* The net amount so paid in the previous year was 1,450,000*l.* It is estimated that for the present year it will be about 600,000*l.*

71. The total amount advanced by the Government from the year 1849 to the end of 1866, for guaranteed interest, was 18,929,576*l.*, and about 7,000,000*l.*, had been paid back by the Companies from the earnings of the railways, making the present debt of the railways to the Government nearly 12,000,000*l.*

GUARANTEED INTEREST, INDIAN RAILWAYS.

Statement of the Total Amount of Interest advanced to each of the under-mentioned Indian Railway Companies, to 31st December 1866.

Company.	Interest paid up to 31st December 1865.	Interest paid during 1866.			Total Amount paid up to the end of 1866.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian - - -	*7,419,017 8 0	1,190,388 4 9	12,631 0 0	1,203,019 4 9	8,622,036 12 9
Great Indian Peninsula	3,470,134 12 2	660,620 16 11	18,820 2 9	679,440 19 8	4,149,575 11 10
Madras - - -	2,192,808 8 8	382,213 14 0	—	382,213 14 0	2,575,022 2 8
Scinde - - -	532,951 4 0	98,083 15 5	1,084 15 0	99,168 10 5	632,119 14 5
Punjab - - -	419,686 6 3	98,010 0 7	420 4 1	98,430 4 8	518,116 10 11
Delhi - - -	142,628 6 0	52,154 14 6	270 11 7	52,405 6 1	195,033 12 1
Indus Steam Flotilla -	98,030 0 2	17,671 14 5	—	17,671 14 5	115,701 14 7
Bombay, Baroda, and Central India - -	1,064,051 14 6	276,243 6 2	1,083 2 4	277,326 8 6	1,341,378 3 0
Eastern Bengal - -	356,215 19 10	85,316 11 5	393 10 8	85,710 2 1	441,926 1 11
Calcutta and South-Eastern - - -	96,009 19 0	23,928 10 8	567 0 3	24,495 10 11	120,505 9 11
Great Southern of India	173,968 5 9	44,192 1 4	—	44,192 1 4	218,160 7 1
Total - - £	15,965,502 4 4	2,928,803 10 2	35,270 6 8	2,964,073 16 10	18,929,576 1 2

* Amended Amounts.

Accountant General's Department,
30th March 1867.

W. G. GOODLIFFE,
Accountant General.

72. The following brief account of each Railway will explain its present position and prospects. The particulars of the traffic are tabulated above, and General Baker's diagrams, which are appended to this Report, present at a glance the progress of each from the beginning.

EAST INDIAN RAILWAY.

73. The East Indian Railway has, during the past year, been carried over the Jumna into Delhi. The whole of the original main line from the opposite side of the river at Calcutta to Delhi, a distance of 1,019 miles, making, with several small branches, 1,131 miles in all, has thus been completed.

74. The line from Allahabad to Jubbulpore, which forms a portion of the main line between Calcutta and Bombay, will be opened very shortly, and then the only work remaining to complete the communication which this Company has undertaken to provide will be the chord line. In addition to this, the doubling of portions of the line will from time to time be put in hand as circumstances may require.

75. The average cost of the upper portion of the East Indian Railway has been about 15,000*l.* per mile. The lower, or Bengal portion, has been at least half as much again. It is estimated that the Jubbulpore line, of 223 miles in length, will come to 14,700*l.* per mile, inclusive of rolling stock, and maintenance for one year.

76. I have, in a former part of this report, explained that, in the first half of the year 1866, the earnings of the open line exceeded the amount of guaranteed interest upon the whole capital to an extent which admitted of an increased dividend of 5*s.* per cent. for the half year to the shareholders. The second half was not so prosperous. An interruption of three weeks duration in the traffic was caused by the destruction of a bridge, and the famine diminished the number of passengers; but, to judge from present returns, the current half year is likely to produce very satisfactory results.

77. The way in which the traffic in some articles is influenced by the vicissitudes of seasons and the state of trade may be illustrated by the following examples. During the half year ending June 1865, the cotton brought down to Calcutta was 5,26,249 maunds. In the corresponding half of 1866, it was 11,92,373. In the same periods the grain was 1,54,123 maunds and 7,61,895 maunds respectively. In the first half year of 1865, the rice taken up was 8,19,706; in the same season of 1866, it was 1,65,253. The salt in 1865 was 3,69,602 maunds; in 1866, 4,35,586.

78. The following Table shows the principal articles which constitute the merchandise traffic on this line both up and down country:—

Article.	Half Year ending 30th June 1865.			Half Year ending 31st December 1865.			Whole Year, 1865.		
	Weight.			Weight.			Weight.		
	Up Country.	Down to Calcutta.	Total.	Up Country.	Down to Calcutta.	Total.	Up Country.	Down to Calcutta.	Total.
	Maunds srs.	Maunds srs.	Maunds srs.	Maunds srs.	Maunds srs.	Maunds srs.	Maunds srs.	Maunds srs.	Maunds srs.
Coal	199,295 0	3,150,801 0	3,350,196 0	137,299 0	3,128,406 10	3,265,705 10	336,594 0	6,279,207 10	6,615,901 10
Cotton	47,957 10	526,249 10	574,206 20	7,149 10	464,515 30	471,665 0	55,106 20	990,765 0	1,045,871 20
Grain	60,311 20	154,123 10	214,434 30	192,503 0	445,738 0	638,241 0	252,814 20	599,861 10	852,675 30
Gunny	32,669 20	13,055 30	105,725 10	48,821 30	19,365 10	68,187 0	141,491 10	32,421 0	173,912 10
Hides	2,683 0	52,087 10	54,770 10	6,010 10	39,620 0	45,630 10	8,693 10	91,707 10	100,400 20
Indigo	263 30	24,560 20	24,824 10	433 10	70,203 0	70,636 10	697 0	94,763 29	95,460 20
Iron, Ironmongery	130,555 20	59,233 20	189,784 0	220,691 20	9,950 0	230,641 20	351,247 0	69,188 20	420,435 20
Piece Goods	206,051 0	15,433 30	221,464 30	229,485 10	25,398 30	255,384 0	435,536 10	41,312 20	476,848 30
Pulses	52,845 20	145,738 0	198,583 20	64,864 20	104,974 30	169,829 10	117,700 0	250,712 30	368,412 30
Rice	819,706 20	1,012,398 30	1,832,105 10	743,346 20	210,441 30	955,788 10	1,565,053 10	1,222,840 20	2,787,893 30
Salt	369,602 30	313,740 0	683,342 30	425,910 30	202,549 0	626,467 30	795,521 20	516,289 0	1,309,780 20
Seeds	6,532 0	587,924 30	594,456 30	21,243 20	262,343 20	283,587 0	27,795 20	850,268 10	878,063 30
Sugar	53,234 10	151,774 0	205,008 10	52,021 0	82,978 0	134,999 0	105,255 10	234,752 0	340,007 10
Tea	2,822 30	754 30	3,577 20	8,422 20	1,345 30	9,768 10	11,245 10	2,100 20	13,345 30
Tobacco	13,916 10	9,567 30	23,484 0	14,906 10	13,272 0	28,822 10	28,822 20	22,839 30	51,662 10
Wearing Apparel	—	—	—	6,191 30	3,256 0	9,447 30	6,191 30	3,256 0	9,447 30
Wines	205,027 10	9,638 0	214,665 10	368,038 14	2,896 10	370,934 24	573,065 24	12,234 10	585,299 34

79. The gross traffic earnings during the year ending the 31st December last were 2,012,680*l.*, as compared with 1,674,441*l.* in the previous year; and the net

receipts were 1,119,315*l.* in 1866, and 928,752*l.* in 1865. The receipts per train mile in 1866 were 8*s.* 9*d.*, in 1865 7*s.* 9*d.* The expenditure per train mile was 3*s.* 7¾*d.* in 1866, and 3*s.* 8*d.* in 1865.

GREAT INDIAN PENINSULA RAILWAY.

80. One hundred and fifty miles have been added to the length of open line in this Company's system since the beginning of the year 1865, making the whole distance over which traffic is now carried to be eight hundred and fifty-two miles. By the completion of the branch to Nagpore, an important section was opened, connecting, as it does, Bombay with the heart of the cotton districts of Central India. The works on the line to Jubbulpore are now progressing satisfactorily, but they will not be finished for eighteen months after the East Indian line to that place is opened. Fair progress has been made on the South-East line towards Madras. It is expected that this will be completed early in 1869. The direction of the Company's affairs in India has been transferred from the hands of Captain Sherard Osborn, R.N., C.B., who resigned the appointment in July last, to those of Major-General Harry Rivers, late R.E., who, in the large experience in the Company's affairs which he acquired when Consulting Engineer to the Bombay Government, possesses a valuable addition to his other high qualifications for the duties of the post.

81. The average number of miles over which traffic has been carried has increased from 595 in 1865 to 740 in 1866. The gross receipts during the early half of the year were very large, amounting to 812,757*l.*, and, as I have before stated, enabled the Company for the first time to declare a larger dividend by 5*s.* than the 5 per cent. guaranteed. This high rate of earnings was not sustained during the second half of the year, the gross receipts being only 440,205*l.* This may be chiefly accounted for by the depressed state of trade in Bombay.

82. Compared with the year 1865, the gross receipts for 1866 were 1,252,962*l.*, as against 1,175,090*l.*, the receipts per train mile being 10*s.* 5*d.* and 10*s.* 11*d.* respectively. The net receipts in 1865 were 480,494*l.*; in 1866 they were 536,334*l.* The expenditure per train mile in 1865 was 6*s.* 2*d.*; in 1866, 6*s.* 4½*d.*

MADRAS RAILWAY.

83. The North-West line of this Company's system has been increased this year by thirty-four miles, raising the whole length of railway now open to 645 miles. The works between the present terminus of the North-West line and Raichore, where it will form a junction with the Great Indian Peninsula Railway, are in progress, and will be completed simultaneously with the works on that railway.

84. The traffic during the year has been injuriously affected by the failure of the monsoon rains, the consequent scarcity and famine, and the state of trade. The gross receipts were 438,787*l.*, as compared with 405,000*l.* of 1865. The net earnings in the two years were 249,372*l.*, and 269,452*l.* respectively. The receipts per train mile on the South-West line in 1865 were 6*s.* 1*d.*, and the expenses 2*s.* 10¾*d.* In 1866 they were 6*s.* 7¾*d.* and 3*s.* 2*d.* respectively.

85. Reviewing the progress of this undertaking from its commencement, there is every reason to be satisfied with the steady development of the traffic, and its gradual improvement in every respect. Good service was rendered by this railway during the season of scarcity by conveying to the famine-stricken districts nearly 23,000 tons of food, an amount which would have employed 17,000 carts every day for three months.

86. It has for some time been felt that Beypoor was not a suitable terminus for this railway on the western coast. It provides the conveniences neither of a harbour nor a port, and the advantages of the railway to the western side of India are greatly diminished in consequence of this want. Proposals have accordingly been made to extend it northwards to Calicut, or southwards to Cochin. The former would hardly be much better than Beypoor, but Cochin appears to offer considerable advantages. Independently of possessing a fine harbour, there is close by a remarkable roadstead, accessible to ships at all seasons. The only drawback is that the line would pass through foreign territory, but this would

be slight if the Rajah will give ordinary support to the undertaking, and this he appears inclined to do. The subject has been referred for the consideration of the Supreme and Madras Governments.

BOMBAY, BARODA, AND CENTRAL INDIAN RAILWAY.

87. No addition has been made to the length of this line during the year. The reclamation of the land between its present temporary and its future permanent terminus at Bombay is now being vigorously prosecuted, but the disastrous break down of the Reclamation Company has caused delay in the progress of the work. The extension of the line at its upper terminus over the Saburmuttee river has been sanctioned. The crossing of this river will be effected by means of the iron bridge which was sent out originally for the Chinnee Creek on the Scinde Railway, and which has now been purchased by the Bombay, Baroda, and Central India Company. It is expected that a considerable traffic will be attracted to the railway from Guzerat, when the inconvenience and difficulty of bringing goods across the river are thus removed.

88. Considerable damage was done to this line by the floods which occurred in Western India during the monsoon of 1866. Their violence is said to have been unprecedented, and for the greater portion of the month of August traffic was suspended between Veturnee river and Dhanoo, a distance of 30 miles, from their effects. About 20 different gaps, varying from 25 to 100 feet, and one of 1,000 feet, were made in an embankment solidly constructed of rubble, stone, and gravel ballast six feet in thickness. The larger bridge withstood the torrent without receiving any injury. The cost of the permanent repairs and alterations has, under the exceptional circumstances of the case, been allowed as a charge against capital.

89. This line, when completed, will have been one of the most, if not the most, expensive in India. Its mileage cost will probably amount to more than 20,000*l.* To cover the interest upon the capital of 6,000,000*l.*, a large traffic will be required, and a large traffic may, I believe, before long, be reasonably expected. Its capabilities are, at present, cramped by the want of a good terminal station at the Port of Bombay, and by the imperfect road communications with the stations. And during the past year the interruptions above referred to, combined with the state of trade, have helped to impede the development of the traffic. Notwithstanding these drawbacks its growth has not been unsatisfactory; one promising feature is, that the up and down traffic is pretty evenly balanced, whereby waste of power and room are avoided. In the year 1865, the gross receipts were 321,816*l.*, and the net 112,833*l.* In 1866 they were 407,688*l.* and 114,455*l.* respectively. The gross receipts per train mile in 1865 were 12*s.* 6¾*d.*, and the expenses 8*s.* 1¾*d.*

90. In a former part of this report, I have referred to the probable extension of this Company's system from Baroda, *viâ* Neemuch, to Delhi.

SCINDE RAILWAY.

91. The monsoon which visited Western India with such severity in August, and so seriously injured the Bombay and Baroda Railway, had not expended its force when it reached Scinde. These rains have not usually extended to Scinde, but last year the fall was extraordinary. In two days 40 inches fell, and the floods produced by this sudden down pour necessarily caused considerable damage. A viaduct on the line was swept down by the ruins of a village which had been carried away. Iron girders, 60 tons in weight, were borne along half a mile distant from the bridge, and rails were taken 300 feet from the line. The traffic both in passengers and goods was interrupted for several weeks, and the receipts were proportionately reduced. As in the case of the Bombay and Baroda line the cost of repairing the damage will, in consideration of the exceptional character of the season, be allowed as a charge against capital. This expenditure will increase the already high cost of this railway. One disadvantage which an undertaking of this limited character possesses, in comparison with longer lines, is that the terminal charges both on the capital and revenue accounts are disproportionately

large. This line, for instance, which is 109 miles in length, has double lines laid down at the Kurrachee and Kotree termini, 41 miles in length.

92. In the year 1864–65, the gross receipts were 82,493*l.*, and the net 3,507*l.* In the year 1865–66, they were 53,166*l.* and 10,083*l.* respectively.

INDUS STEAM FLOTILLA.

93. It is well known that the vessels which formed the early portion of this Company's flotilla did not turn out satisfactorily. The existing fleet, however, works regularly, although a steamer is occasionally interrupted, when the river is low, by snags and other impediments. Two vessels were sunk during the past year from this cause, but were afterwards raised and soon afloat again, much to the credit of the Company's officers.

94. The Flotilla now consists of 13 steamers (one of which has been laid by for the present, and four have not yet commenced work), 3 tugs, and 26 barges.

95. The gross receipts in the year ending June 1865 were 73,958*l.*, and the net 16,460*l.* During 1865–66, they were 80,640*l.* and 22,283*l.*

PUNJAB RAILWAY.

96. It was not to be expected that this line would yield large profits at this early stage of its existence. The Punjab, while rich in agricultural produce, is a comparatively new province of British India, and young in civilization; and the railway, although sure to give a stimulus to all departments of industry, cannot, until access is obtained to it by roads from the neighbouring districts, confer those general benefits upon the country which it otherwise would. The traffic is still of a limited character, and its development during the year that has just passed has been checked by the depressed state of trade, and the consequent reduced demand for the products of the province. By practising proper economy in working the line, and by an energetic management, there is every reason to hope for a steady improvement in the receipts.

97. In the year 1864–65, the gross receipts were 25,250*l.*, and the net receipts 6,009*l.* In 1865–66, the gross receipts were 90,269*l.*, the net 25,395*l.*

DELHI RAILWAY.

98. The progress made in the construction of this line is satisfactory. The proceedings of the contractors, Messrs. Brassey, Wythes, & Co., have been marked by considerable vigour. In the case of a line like this, which crosses several rivers, the time of completion depends on the progress made in the execution of the bridges. It is satisfactory, therefore, to know that the piers and abutments of all the large bridges will probably be got in this year before the rains. The first section, from Ghazeeabad (where the line joins the East Indian) to Meerut, thirty miles in length, was opened last month. This will connect Meerut with Delhi and the many important places on the East Indian Railway down to Calcutta. It is expected that another section, between 20 and 30 miles in length, will be opened from Umritsur (the Punjab Railway terminus) to the river Beas in the month of August.

EASTERN BENGAL RAILWAY.

99. The works on the Goalundo Extension of the Eastern Bengal Railway have been progressing favourably. The iron cylinders for the bridge over the Goraie River have been despatched from this country. The cost of the whole line now sanctioned, when completed, will be about 2,800,000*l.* or upwards of 17,000*l.* a mile. Parliamentary powers were obtained by this Company last

Session to run steamers on the rivers which communicate with their line. The traffic which has been carried by this means has produced satisfactory results.

100. The same causes which have had an unfavourable effect upon the receipts of other lines have also affected this. The number of third-class passengers has diminished, in consequence of the famine and the high prices of provisions, and the goods traffic has been injured by the failure of the jute crop and the depressed state of trade.

101. The gross receipts in 1865 were 123,374*l.*, and the net, 62,111*l.* In 1866 they were 129,347*l.*, and 62,246*l.* respectively. The receipts and expenses per train mile were, in 1865, 7*s.* 7*d.* and 3*s.* 9¼*d.* In 1866 they were 7*s.* 11¼*d.* and 4*s.* 1½*d.*

GREAT SOUTHERN RAILWAY.

102. Considerable progress has been made in the extension works on this line. Forty-seven miles were opened for traffic last year, and the whole of the extension to Erode, where it forms a junction with the Madras Railway, will probably be finished by September. The famine in this part of the country has had the effect of impeding operations on the unfinished line, and of checking the traffic on the open line. The cost of this railway when finished with a single rail will be less than any other in India, viz., 7,700*l.* per mile. The expense of maintaining and working it has also hitherto been very moderate. With continued good management, and by adopting proper measures for developing the traffic, it may be expected before long to produce earnings sufficient to cover the guaranteed interest.

103. In 1865 the gross earnings were 35,236*l.*, and the net 17,785*l.* In 1866 these sums were 45,582*l.* and 24,694*l.* respectively. The train mileage earning in the former year was 5*s.* 2*d.*, in the latter, 4*s.* 10¾*d.*, the cost per train mile being 2*s.* 7*d.* and 2*s.* 3*d.*

THE CALCUTTA AND SOUTH-EASTERN.

104. A combination of untoward circumstances has continued to operate against the successful working of this line, and a deficit still appears in its revenue accounts. Just as the traffic was beginning to make progress, the bed of the river where the jetty had been put up shifted, in consequence, it is supposed, of certain operations on the shore close by, and it was partly carried away. This caused a stoppage of business, both at the port and on the railway. The building, however, has since been going on steadily, under the auspices of the Port Canning Company, who have expended upwards of 600,000*l.* upon the place, and a new town is now gradually forming, so that, when the dangers and difficulties of its infancy are passed, the whole scheme of establishing a port on the Mutlah, of which the railway only forms a part, will be in a more promising condition. Upon the whole, we may look with hope, if not with confidence, to the future.

SUMMARY.

105. The main facts given in the foregoing pages may be briefly summed up as follows:—

The length of line open for traffic has, during the year 1866, been increased from 3,331 miles to 3,638 miles; and the extent now sanctioned (including the Indian Branch Railway) is 5,641 instead of 4,924 miles. An addition of 7,750,000*l.* has been made to the capital expenditure, which, on the 1st April, had reached a total sum of nearly 68,000,000*l.* The materials sent out during the year amounted to 326,845 tons, of the value of 2,658,357*l.* On the 1st January last, the total amount of goods which had been provided for the railways from this country, was 3,195,862 tons, which cost about 20,200,000*l.* The proprietors of Indian Railway stock and debentures have increased from 39,466, on the 1st January 1866, to 43,824, on the 1st January 1867. The capital held by them amounted respectively to 60,000,000*l.* and 64,500,000*l.* The number of locomotive engines

has increased from 725 in 1865 to 795 in 1866, the passenger carriages from 1,584 to 1830, and the other vehicles from 16,173 to 17,446.

106. The gross receipts, for the year ending 30th June 1866, were 4,537,235*l.*, as compared with 3,122,480*l.* of the previous year. The working expenses were 2,225,495*l.* and 1,566,437*l.*, and the net receipts 2,304,534*l.* and 1,341,550*l.*, respectively. In 1864–65 the number of passengers were about 12,500,000. In 1865–66 they amounted to about 12,867,000. The sum paid by the passengers last year, exclusive of telegraphic messages, was 1,278,580*l.*; the amount received for the conveyance of merchandise, parcels, &c., was 3,091,723*l.*, and 10,120,920 train miles were run.

107. Reviewing the proceedings of the year, and making allowances for the adverse circumstances against which the railways have had to contend, the results cannot but be regarded as satisfactory and encouraging. In spite of commercial depression and monetary disasters, of drought and famine, of unprecedented floods and destructive inundations, the works under construction have steadily progressed, and the traffic has increased. A larger expenditure has taken place than in several preceding years, the revenue has been greater than at any previous time, and the effects of the Railways upon the general prosperity of the country have been abundantly manifested, whether regarded in relation to its material progress, to the comfort and convenience of the people, or to their social improvement.

I have the honour to be,

Sir,

Your most obedient, humble Servant,

JULAND DANVERS.

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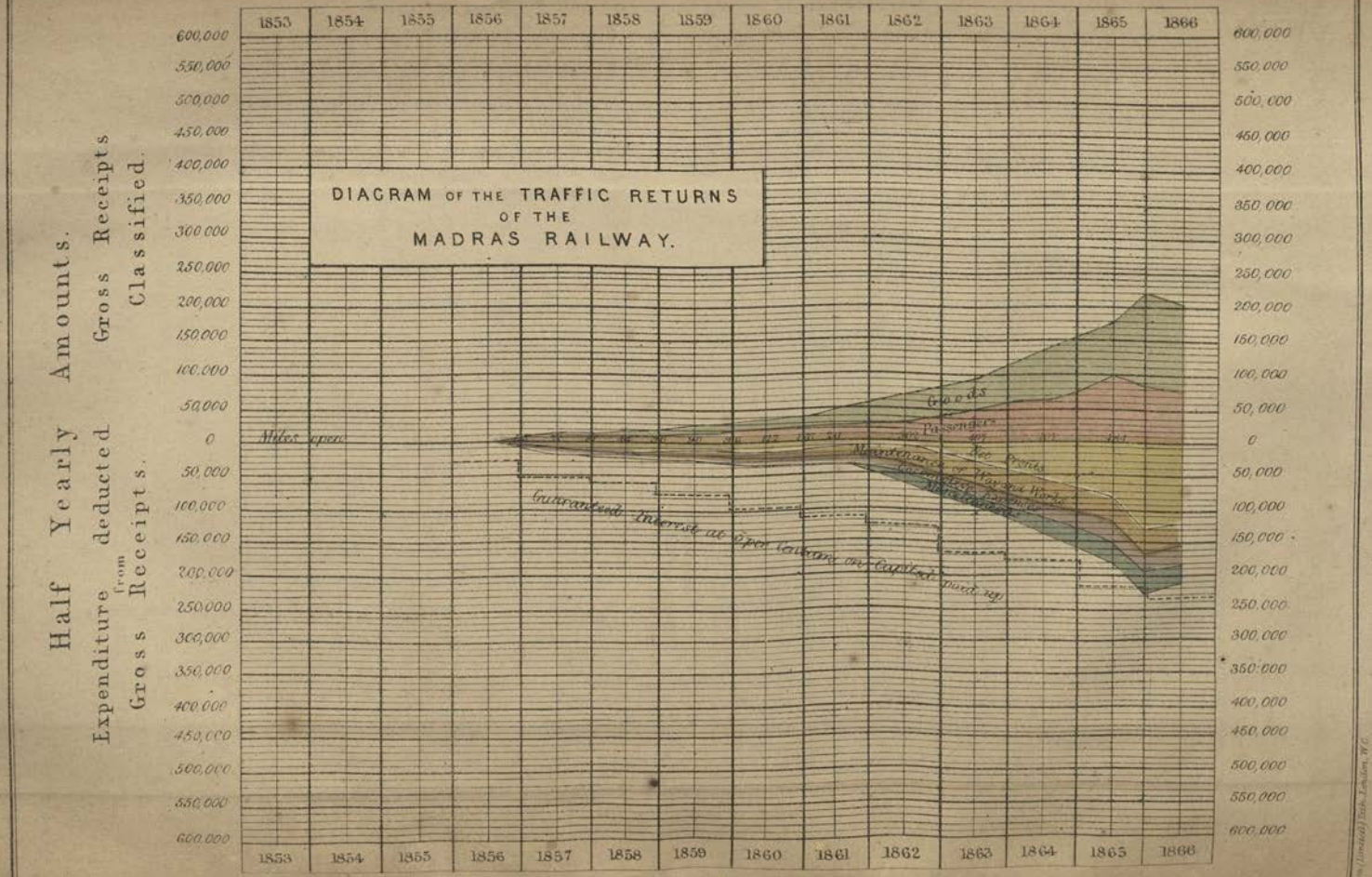
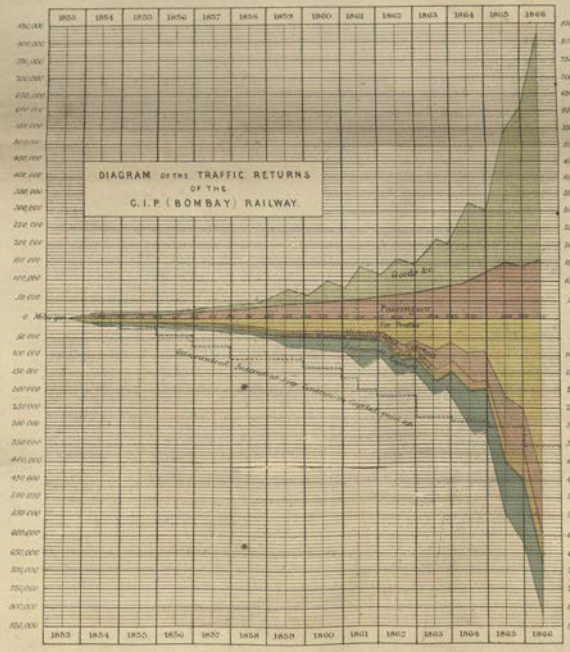


DIAGRAM OF THE TRAFFIC RETURNS
OF THE
MADRAS RAILWAY.
Half Yearly Amounts.
Expenditure deducted from Gross Receipts.
Gross Receipts Classified.
1853
1854
1855
1856
1857
1858
1859
1860
1861
1862
1863
1864
1865
1866
600,000
550,000
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
Miles open
Guaranteed Interest at 5 per Cent on Capital paid up
Goods
Passengers
Mail
Miscellaneous



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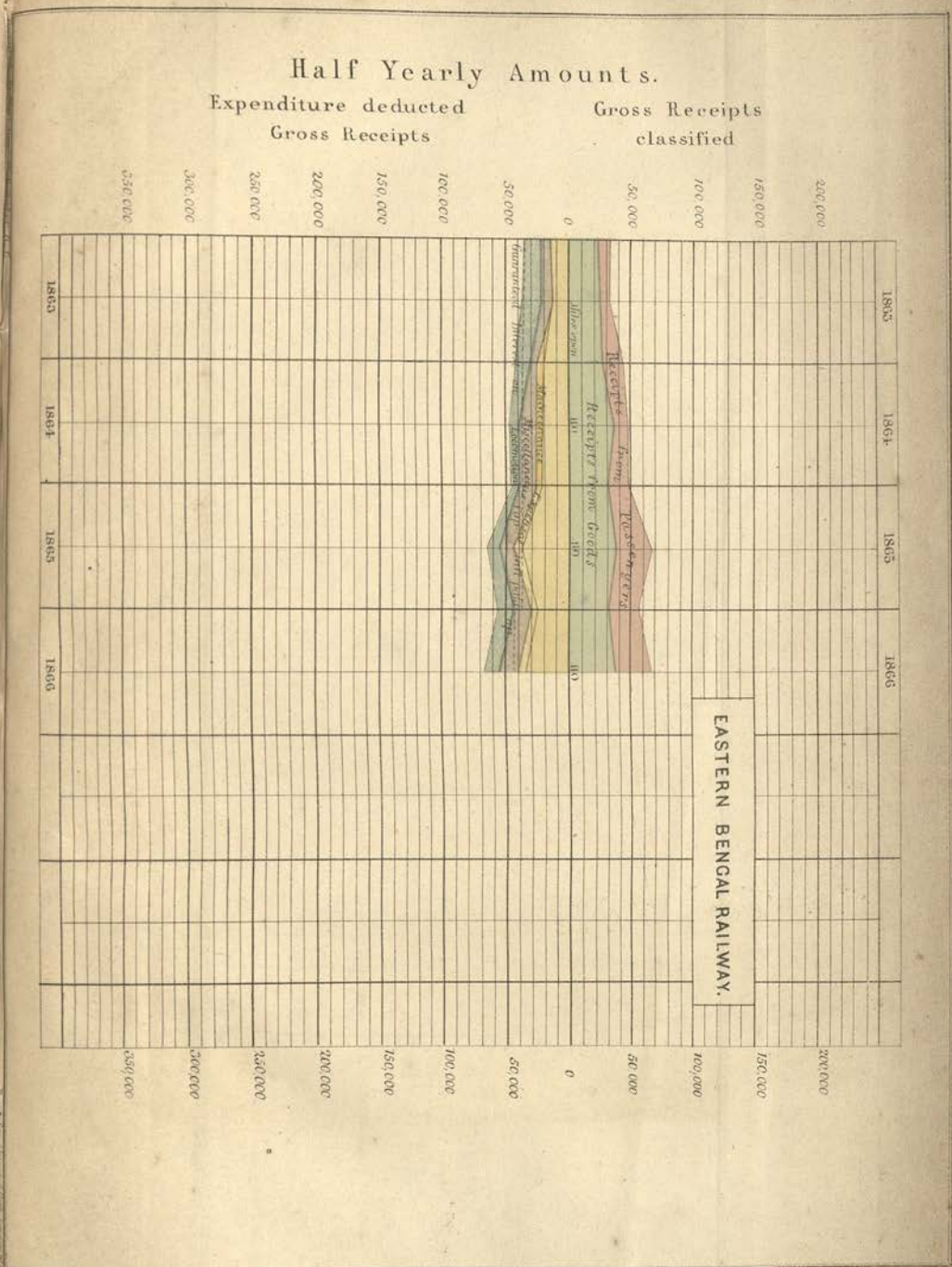
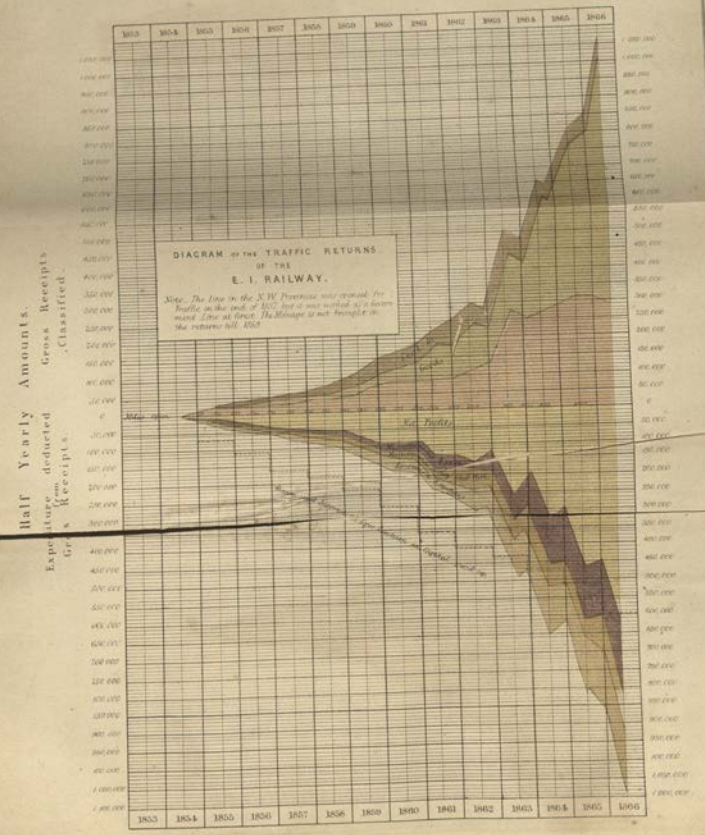

Half Yearly Amounts.
Expenditure deducted
Gross Receipts
Gross Receipts
classified
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
50,000
100,000
150,000
200,000
1865
1864
1865
1866
Receipts from Passengers
Receipts from Goods
Miscellaneous
Guaranteed Interest
EASTERN BENGAL RAILWAY.

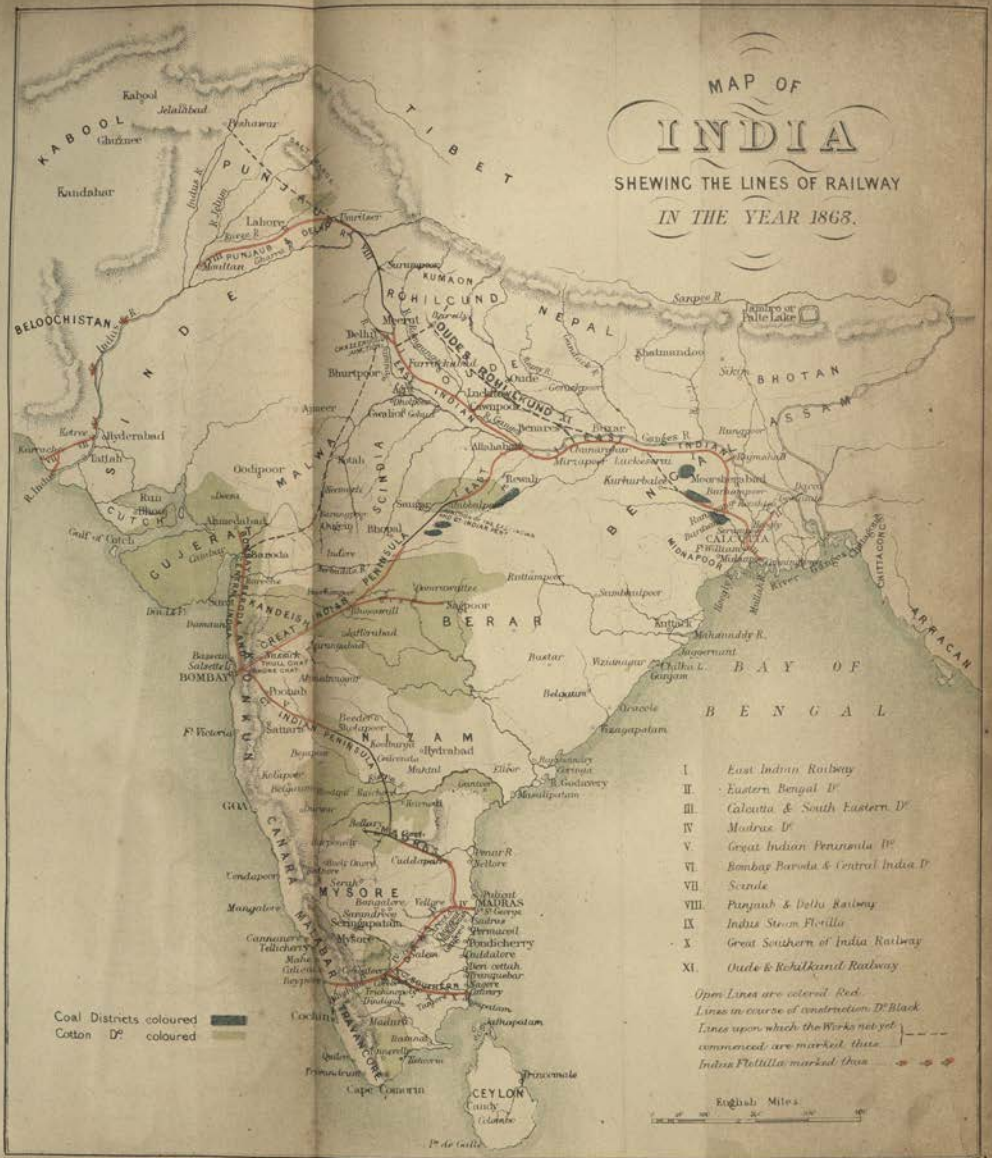


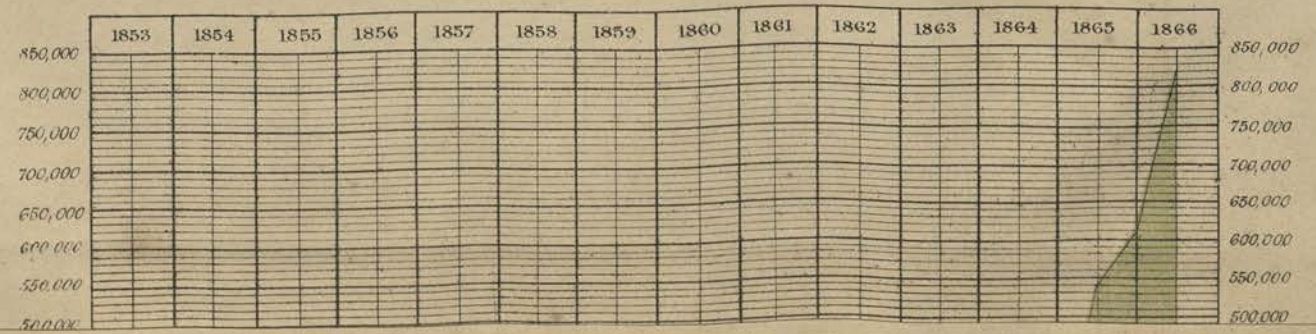
Prepared by Majr Genl W. E. Baker, R.E.

MAP OF INDIA

SHEWING THE LINES OF RAILWAY

IN THE YEAR 1868.


KABOOL
Kabool
Jelalabad
Peshawur
Ghuznee
Kandahar
PUNJAUB
Lahore
Ferozepore
Umritsur
Multan
BELOOCHISTAN
Kurrachee
Hyderabad
Tattah
SINDE
Ajmeer
Oodipoor
Deesa
Ahmedabad
Gulf of Cutch
Baroda
Indore
Surat
Bombay
Poonah
Sattara
Kolapoor
Belgaum
GOA
Dharwar
Bellary
Cuddapah
Vellore
Madras
Arcot
Seringapatam
Bangalore
Salem
Coimbatore
Cochin
Madura
Tuticorin
Cape Comorin
CEYLON
Candy
Colombo
Pt de Galle
Trincomale
TIBET
KUMAON
ROHILCUND
DOOAB
Meerut
Delhi
Bhurtpoor
Agra
Gwalior
Cawnpore
Allahabad
Benares
Mirzapoor
Lucknow
Rewah
Sumpta
Jubbulpore
Nagpoor
Chanda
Hyderabad
Kurnool
Nundial
Cuddapah
Madras
Pondicherry
Tanjore
Trichinopoly
Madura
Tuticorin
NEPAL
Sarpoo R.
Katmandoo
Sikim
BHOTAN
ASSAM
Rungpoor
Dinagepore
Purneah
Rajmahal
Moorshedabad
Burdwan
Hooghly
CALCUTTA
Fort William
Midnapoor
Cuttack
Mahanuddy R.
Sumbulpoor
Rattunpoor
Kurhurbalee
Gangoor
Chilka L.
Ganjam
Vizianagar
Vizagapatam
Bustar
Belasiore
Oracole
Godavery R.
Rajamundry
Coringa
Masulipatam
Guntoor
Ellore
Nellore
Pennar R.
Madras
Pt St George
Pulicat
Sadras
Permacoil
Vellore
Arcot
Cuddalore
Porto Novo
Tranquebar
Negore
Tritchinopoly
Dindigul
Palamcottah
Travancore
Quilon
Trivandrum
Anjengo
Tinnevelly
Paumben
Ramnad
Adhapadam
Mannar
Jaffnapatam
Trincomale
Batticaloa
Point de Galle
Columbo
Candy
Kandy
Negombo
Jaffna
Manaar
Pamban
Ramnad
Tuticorin
Cape Comorin



Prepared by Majr Genl W. E. Baker, R.E.

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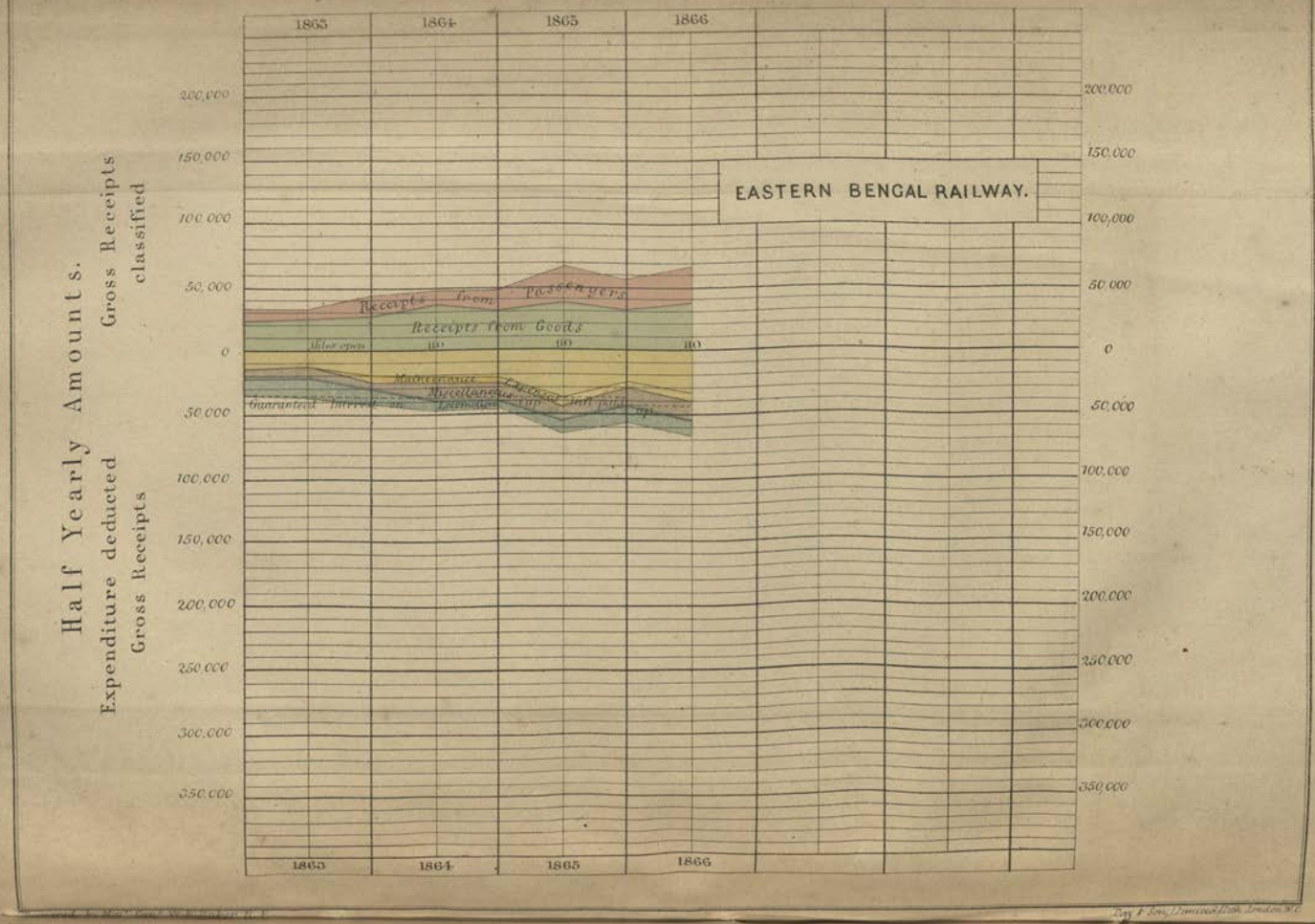
Half Yearly Amounts.
Expenditure deducted
Gross Receipts
Gross Receipts
classified
1863
1864
1865
1866
EASTERN BENGAL RAILWAY.
Receipts from Passengers
Receipts from Goods
Miles open
Maintenance
Miscellaneous
Guaranteed Interest
200,000
150,000
100,000
50,000
0
50,000
100,000
150,000
200,000
250,000
300,000
350,000

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1867-68.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
FOR HER MAJESTY'S STATIONERY OFFICE.

(4604.) 1868.

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REPORT.

To the Right Honourable Sir STAFFORD H. NORTHCOTE, Bart., M.P., Secretary of State for India.

SIR, India Office, 1st May 1868.

I HAVE the honour to lay before you the following account of the progress and condition of Railways in India during the year 1867, as well as a statement of their financial position at the close of the official year which ended on the 31st March last.

General progress.

2. Three hundred and forty-nine miles of new railway have been opened for traffic during the year, making the whole extent of line now open to be 3,943 miles. These 349 miles consisted of, 1st, the Jubbulpore branch of the East Indian line (225 miles in length), which was opened on the 1st June: 2dly, the extension by 29 miles of the Great Indian Peninsula Railway, opened on the 27th February to Nagpore, the terminus of the branch line which brings the cotton districts of Central India into connection with the port of Bombay: 3dly, the section of the Delhi line between Ghazeeabad and Meerut, 27 miles in length, which was opened on the 18th April, and another section of that line, of the same extent, lying between the western terminus at Umritsir and the river Beas, which was finished in November: 4thly, the completion on the 1st January of the remaining 41 miles of the Great Southern Railway to Errode, where it forms a junction with the Madras Railway.

Oude and Rohilkund, formerly th Indian Branch Railway.

3. I mentioned in my report last year that the guarantee had been conceded to the Indian Branch Railway Company for the construction of a system of railways in Oude and Rohilkund. The contract with this company was executed in August 1867, and by it the Secretary of State in Council agreed to guarantee interest at the rate of five per cent. per annum for 999 years, upon 4,000,000*l.* or such further sum as, with the consent of the Secretary of State, may be raised for the purposes of the undertaking. The title of the company has been changed from the "Indian Branch" to the "Oudh and Rohilcund" Railway Company.

4. The following table shows the length of line now opened by each company, and the extent remaining to be finished.

Railway.	Total Length as at present sanctioned (given approximately).	Length opened during 1867.	Length opened since 1st January 1868.	Total Length now opened (1st May 1868).	Length remaining to be finished in			
					1868.	1869.	1870 and subsequently.	Total.
East Indian - Main line	1,276¼	—	—	1,131¼	—	—	145	145
East Indian - Jubbulpore line	225	225	—	225	—	—	—	—
Great Indian Peninsula	1,266¾	29	21	873½	—	—	393¼	393¼
Madras - S.-W. line, including Bangalore branch	492	—	—	492	—	—	—	—
Madras - N.-W. line	333	—	—	153	62	—	118	180
Bombay, Baroda, and Central India	312¼	—	—	306	—	6½	—	6½
Scinde	109	—	—	109	—	—	—	—
Punjab	246	—	—	246	—	—	—	—
„ Delhi	320	54	—	54	—	185	81	266
Eastern Bengal	159	—	—	114	—	45	—	45
Great Southern	168	41	—	168	—	—	—	—
Calcutta and South-Eastern	29	—	—	29	—	—	—	—
Oudh and Rohilcund	672	—	—	42	—	—	630	630
Total	5,609	349	21	3,942¾	62	236½	1,367¼	1,665¾

Failure of works on the Great Indian Peninsula Railway.

5. While describing what is being done, it is necessary to refer to some works on which, instead of progression, there has unfortunately been retrogression. On the 19th July last, without any immediate apparent cause, the great viaduct on the Bhore Ghat incline of the Great Indian Peninsula Railway, consisting of eight arches of 50 feet span each, suddenly collapsed and in a few minutes became a heap of ruin. Happily, no loss of life or personal injury ensued. A careful examination, which was at once ordered, of similar structures, both on the open and unopen lines, showed that several of them were insecure, and Mr. Berkeley, the Company's consulting engineer, was immediately despatched to Bombay to devise means for putting the railway in a perfect state of repair without interfering with the traffic. With the exception of the place where the viaduct above mentioned fell, this will be accomplished; but considerable delay must occur in opening the line to Jubbulpore and consequently in completing the through communication between Bombay and Calcutta, which was to have taken place this year. This delay is the more to be regretted as the new weekly mail service between this country and India, which has recently come into operation, provided for the landing of all the mails at Bombay and for their transmission across the country to Calcutta.

6. These failures appear to be due, chiefly, to the faulty character of the masonry. To what extent this has resulted from an unwise economy, from imperfection of design, from the failure to secure the proper adaptation of the materials of the country to the purposes for which they were intended, or from lax superintendence, will be better known when the inquiries now in progress are completed. The lesson to be learnt from these disasters is that true economy in the laying out of important works of this kind consists in using such materials and adopting such principles of construction as will produce the strength and solidity suitable for the permanent performance by the railways of the services which they are intended to render; also that too much thought cannot be bestowed upon the preparation of plans, or too strict an inspection established while the works are in course of execution. This definition would not exclude railways of a lighter description in suitable places; but temporary buildings and makeshifts do not answer. We had an example of this during the cyclone last autumn in Calcutta. The permanent buildings on the Calcutta and South Eastern Railway resisted the force of the gale, and sustained no damage; while the wooden sheds were blown to pieces, and all the other temporary erections were levelled to the ground.

Unguaranteed lines.

7. The only railway with which the Government have to do, apart from those undertakings which are under the guarantee system, is the tramway in the Madras Presidency, extending from Arconum to Conjeveram. And this can hardly now be said not to be guaranteed, inasmuch as it has been arranged that the Government shall make up the dividend of the company to three per cent. per annum upon their present paid up capital of 100,000*l.*, "until such time as it may be "deemed desirable to proceed with the proposed extension of the line to Cudda- "lore, in which case such arrangements as may then appear suitable for the "purpose will be made." The line is at present only $18\frac{3}{4}$ miles in length, but an extension is in contemplation which would, if executed cheaply, probably enhance the remunerative powers of the undertaking, and strengthen the line against the rivalry of country carts.

RAILWAYS AND THE COTTON DISTRICTS.

8. It will be seen, by reference to the sketch map affixed to this report, that almost all the principal cotton fields of India are connected by the railways with ports of shipment. The Great Indian Peninsula Railway brings to the port of Bombay the cotton of Candeish and Berar, and of Barsee and Sholapore.

The Bombay and Baroda Railway brings also to Bombay the produce of Guzerat:

The Madras Railway brings to Madras the cotton of Dharwar and Bellary by its northern line, and of Coimbatore and Salem by its southern:

The East Indian conveys to Calcutta the cotton grown in the valleys of the Ganges and Jumna:

The Punjab Railway, with the help of the Indus Flotilla and Scinde Railway, brings to Kurrachee the produce of the Punjab and North-west:

The cotton field of Tinnevelly in Southern India, the port for which would be Tuticorin, is at present unprovided with a railway, but the extension of the Great Southern Railway into this district is in contemplation, and surveys are now being made to ascertain the best route. The cotton districts of Kattiawar, which are at present too far from the railway at Ahmedabad to be much accommodated by it, also require a short branch from that line to bring them into communication with Bombay.

9. Railways are beginning to tell upon the cotton cultivation of India in other ways than merely providing a more rapid and less costly mode of conveyance than formerly. Steam factories for cleaning cotton are springing up; machines for half pressing are established in many places, and in others steam presses for packing the bales for shipments have been constructed. An improvement, it is said, has also taken place in the mode of carrying on the trade in the interior, whereby the ryot is placed in a much better position than formerly.

PROJECTS FOR RAILWAY EXTENSION.

10. Various projects for the extension of railway communication in India have been brought forward; but while it is easy to propose new schemes, it is not so easy to provide the means for carrying them out. The objections to the guarantee system naturally induced the authorities to attempt other modes of encouraging and assisting railway enterprise, but none were successful, and it is now acknowledged that the security furnished by the Government guarantee and control is necessary to induce capitalists in England to provide money for Indian railways. Even with this advantage capital cannot be obtained in India for the purpose. The success of the chief lines of railway has relieved the revenues of a burden which, by many, it was expected would have been permanent. This success has led to the consideration whether a portion of the funds which find their way into the Government treasury from the earnings of the railways may not advantageously be applied to the extension of a system which is conferring such benefits upon the country. The Secretary of State in Council and the Government in India have both recorded their opinions that the time has arrived for doing so.

11. In a despatch to the Governor General, dated the 16th January last, a copy of which is given in the Appendix, the present is regarded as "a fitting time "for taking a comprehensive view of our railway policy, past and future, "for reviewing what has been already done, and for endeavouring to establish "principles on which we may proceed henceforward;" and after alluding to the two classes in which future railways should be arranged, viz. commercial and political, and expressing an opinion that the guarantee system is upon the whole the one best adapted for the extension of the commercial, while direct Government agency might be preferable for the political, the Government is requested to take a general survey of the whole of India, and to state their opinion as to the lines which are most desired, as well as to the order, mode, and rate of progress in which they should be taken up. The Government in India has at the same time invited each of the local Governments "to consider what lines of railway they would "regard as desirable to construct, should the necessary funds be available, either "within their respective territories or to communicate with the most important "points in the territories adjacent, whether British or Foreign;" the object of this reference being to ensure such a review of all possible lines as will "enable the "Government of India and the Secretary of State to make a selection of those "particular lines which are most needed, and which most commend themselves "for early construction."

12. The following are the new projects which have already been brought under notice, viz.—

A continuation of the present line from Bombay, *via* Surat and Baroda, to Delhi and Agra; and a branch also to Kattiawar;

A line along the valley of the Indus to connect the present Scinde Railway at Kotree with the Punjab line at Mooltan;

A line from Lahore to the North-west frontier at Peshawur;

An extension of the Eastern Bengal Railway to Darjeeling on the one side, and Assam on the other;

The extension of the Madras Railway to connect its south-west line with Cochin as a western terminus.

The carrying out of the original design for the Great Southern Railway by extending it from Caroor or Trichinopoly through Madura or Tinnevelly to Tuticorin;

A third line to connect the North-east and South-east lines of the Great Indian Peninsula Railway;

The construction of a bridge over the Hooghly at Calcutta, connecting thereby the East Indian and the Eastern Bengal Railways.

There is also a project which, although distant from the continent of India, may possibly affect the well-being of our most eastern Indian provinces, and be the means of establishing important commercial relations with Western China. I allude to a scheme for railway communication between Rangoon and the western portion of China, which was some time ago brought forward by Captain R. Sprye, and was considered by Lord Cranborne, when Secretary of State, as a scheme worthy of investigation, "both in the interest of England and British Burmah."

13. Some of the lines above enumerated will pass through districts and provinces as rich and populous as those which are traversed by the main lines already executed. Others will not present the same commercial advantages, but it may be presumed, from the experience which has now been gained, that all will cost less than the existing lines. Past mistakes will not be repeated, and a great saving will be effected, by means of the open lines, in the transport of materials, which has hitherto formed a very heavy item in the capital account.

A Committee, which was appointed to consider matters connected with the Oude and Rohilkund Railway, has lately expressed the following opinion upon this subject:—"Without any sacrifice of necessary strength and permanence, such "modifications could be introduced in the system of construction as should prevent "the cost of railways in any case exceeding 10,000*l.* per mile of single line, and "that under favourable circumstances most of the lines likely to be undertaken "could be completed in an efficient manner at a far less cost."

SUPPLIES FROM THIS COUNTRY.

14. The work of construction has been assisted from this country, as usual, by the supply of materials for the permanent way and for stations, as well of locomotives and large quantities of miscellaneous stores. A considerable portion of these last, however, are provided for purposes of working and maintenance. The following statement exhibits the amount of shipments during the year. Freights have ranged high. At the commencement of the Abyssinian expedition they were excessively so, reaching in some cases to 60*s.* a ton.

SHIPPING OPERATIONS DURING THE YEAR 1867.

Railway Company.	Number of Ships employed in 1867.	Amount of Goods shipped in 1867.	Value of Goods shipped in 1867.	Amount paid for Freight and Insurance in 1867.
		Tons.	£	£
East Indian	94	97,506	974,305	180,489
Great Indian Peninsula	139	125,634	1,066,145	337,555
Madras	79	53,826	400,632	109,345
Bombay, Baroda, and Central India	40	13,402	206,972	39,692
Scinde	101	1,149	29,470	5,506
Punjaub		968	16,217	3,196
Indus Flotilla		273	6,479	848
Delhi		18,581	187,961	50,545
Eastern Bengal	42	14,254	118,084	29,784
Great Southern of India	10	7,504	43,700	17,349
Calcutta and South-Eastern	6	228	4,287	445
Indian Branch	1	4	400	15
Total	512	333,329	3,052,652	774,769

15. The shipments which have been made from this country to India for the purposes of the railways since their commencement will be seen in the subjoined account:— Shipments since commencement of railway works in India.

Year.	No. of Ships.	Ships lost.	Amount of Goods shipped.	Value of Goods shipped.
			Tons.	£
Up to end of 1860 - - -	2,605	39	2,094,686	10,431,976
In 1861 - - - - -	407	—	182,621	1,669,443
„ 1862 - - - - -	280	1	138,013	1,487,582
„ 1863 - - - - -	279	2	166,840	1,285,464
„ 1864 - - - - -	233	—	102,318	1,018,164
„ 1865 - - - - -	442	2	199,157	1,729,543
„ 1866 - - - - -	581	7	312,227	2,527,757
„ 1867 - - - - -	512	5	333,329	3,052,652
Total - -	5,339	56	3,529,191	23,252,581

16. Five ships, it will be observed, laden with goods of the aggregate value of 12,300*l.*, were lost during the year. Two were chartered by the Great Indian Peninsula Railway, two by the Madras, and one by the Scinde. The goods were, in each case, fully insured.

17. The following table shows the number of locomotive engines, passenger carriages, and goods wagons added to the former stock of each company during the past year, and the number in use on the 1st January 1868. Locomotive power and rolling stock.

Locomotive and Rolling Stock on the 1st January 1868.

Railway.	Miles open 1st May 1868.	Locomotives.			Passenger Carriages.		Trucks and Waggons.		Total Number of Vehicles on 31st December 1867.
		Former Number.	Added in 1867.	Total Number, 31st Dec. 1867.	Former Number.	Added in 1867.	Former Number.	Added in 1867.	
East Indian - -	1,356	332	93	425	604	246	4,667	535	6,052
Great Indian Peninsula	873	167	42	209	609	349	3,611	969	5,538
Madras - -	645	106	—	106	206	56	2,481	199	2,942
Bombay, Baroda, and Central India -	306	63	2	65	179	2	2,824	50	3,055
Scinde - -	109	25	—	25	66	—	731	7	804
Punjab -	246	38	—	38	116	—	669	—	785
Delhi - - -	54	—	6	6	—	107	—	254	361
Eastern Bengal -	114	28	4	32	92	—	469	40	601
Great Southern of India	168	11	4	15	33	—	195	10	238
Calcutta and South-Eastern - - -	29	12	—	12	56	—	478	—	534
Oude and Rohilkund -	42	4	—	4	12	—	37	—	49
Total - -	3,942	786	151	937	1,973	760	16,162	2,064	20,959

18. It will be observed that the proportion of locomotives to the mileage and to the rolling stock varies considerably on the different railways. For instance,—

The East Indian has a locomotive for every	3·18 miles	and for every locomotive	14 vehicles.		
Great Indian „	4 „	„	26 „		
Madras „	6 „	„	28 „		
Bombay and Baroda „	4·70 „	„	46 „		
Scinde „	4·36 „	„	32 „		
Punjab „	6·65 „	„	20 „		
Eastern Bengal „	3.56 „	„	19 „		
Great Southern „	11 „	„	16 „		
Calcutta and South Eastern „	2·41 „	„	44 „		
Oudh and Rohilcund „	10·50 „	„	12 „		

19. The following statement shows that the number of shareholders and debenture holders have increased from 43,824 on the 1st January 1867 to 49,690 on the 1st January 1868. During the same period the capital held by these respective numbers increased from 66,750,000*l.* to 74,400,000*l.*

Railway.	Number of Shareholders on 31st December 1867.						Number of Debenture Holders.	Total Number of Proprietors on the 31st December 1867.
	Registered in England.			In India.				
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.		
East Indian	5,300	6,894	12,194	197	114	311	3,766	16,271
Great Indian Peninsula	4,040	5,691	9,731	68	108	176	1,770	11,677
Madras	2,178	3,199	5,377	—	—	—	989	6,366
Bombay, Baroda, and Central India.	1,838	3,152	4,990	16	69	85	1,036	6,111
Scinde	546	764	1,310	16	3	19	156	1,485
Punjab	537	834	1,371	17	2	19	63	1,453
Delhi	808	1,172	1,980	40	6	46	—	2,026
Indus Flotilla	81	207	288	—	—	—	120	408
Eastern Bengal	537	816	1,353	20	19	39	458	1,850
Great Southern of India	299	440	739	2	7	9	127	866
Calcutta and South-Eastern.	108	247	355	23	46	69	96	520
Oude and Rohilkund	274	259	533	23	23	46	75	657
Total	16,546	23,675	40,221	422	397	819	8,656	49,690

PERSONS EMPLOYED ON THE LINES.

European staffs.

20. The following table gives the number of persons employed on the railways specified on the 30th September 1867. The returns from the lines on the Bombay side have not yet been received.

Railways.	Agent's Department including Medical and Barrack Department.			Account Department.			Audit Department.			Printing and Stationery Department.			Stores Department.			Traffic Department including Steam Ferry.			Engineer's Department.			Carriage and Waggon Departments.			Locomotive Department.			Telegraph Department.			Grand Total.			No. of Miles open.	No. of Stations.
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.		
East Indian Main Line, Jubbulpoor Branch.	38	153	191	22	399	421	33	345	378	8	289	297	60	1,465	1,525	572	4,451	5,023	171	7,501	7,672	173	5,582	5,755	763	2,730	3,493	79	1,074	1,153	1,919	23,989	25,908	1,247	127
Eastern Bengal	9	39	48	3	48	51	1	20	21	—	6	6	4	44	48	50	801	851	41	1,380	1,421	5	167	172	48	338	386	4	70	74	165	2,913	3,078	113	23
Calcutta and South-Eastern.	4	10	14	—	23	23	—	—	—	—	—	—	—	9	9	6	80	86	4	212	216	—	—	—	15	71	22	1	12	13	30	353	383	23	8
Oudh and Rohilkund.	4	1	5	1	23	24	1	26	27	—	3	3	—	19	19	5	143	148	—	—	—	1	2	3	8	36	44	2	22	24	22	275	297	42	5
Punjab	13	32	45	20	28	48	—	—	—	1	55	56	8	8	16	50	457	507	22	79	101	—	—	—	68	190	258	30	46	76	210	895	1,105	246	20
Delhi	—	—	—	4	3	7	—	—	—	—	—	—	3	6	9	10	75	85	28	190	218	—	—	—	11	10	21	7	7	14	63	291	354	27	3
Madras	14	28	42	2	83	85	10	82	92	—	—	—	14	104	118	129	1,285	1,414	59	2,735	2,794	—	—	—	317	1,908	2,225	37	132	169	582	6,357	6,939	645	66
Great Southern of India.	19	59	78	—	—	—	—	—	—	—	—	—	—	—	—	4	459	463	37	457	494	—	—	—	—	—	—	—	—	—	60	975	1,035	127	19
Total	101	322	423	52	607	659	45	473	518	9	353	362	89	1,655	1,744	826	7,751	8,577	362	12,554	12,916	179	5,751	5,930	1,228	5,219	6,447	160	1,363	1,523	3,051	36,948	39,999	2,475	271

21. As the undertakings approach completion it becomes necessary to consider what establishment each company will have to maintain as a permanent staff. The Indian Railway service is yearly becoming more numerous and important, and the European portion of it is composed of a class of men which, until within the last ten years, has been in a very limited degree connected with any departments of our administration in that country. A civil engineer was seldom seen in India before railways were introduced, and the usual staff of a railway, from the traffic manager and locomotive superintendent to the engine driver and stoker, were of course unknown. Now it will be observed they are to be counted by thousands. They go out from this country generally between 25 and 30 years of age, and many spend the best years of their lives there. The mortality amongst them, notwithstanding the exposure to which they are subject, has been below the average. This may in some measure be due to the care which is taken in selecting healthy lives. For his own sake, as well as for the security of his employers, each man is thoroughly examined and passed by the Railway Company's physician before he is appointed.

22. During the past year several measures have been adopted by the Home authorities with the view of improving the position of the European servant. The pay is already high, being generally more than double what a man in the same class is receiving in England; but his expenses are also greater, and there were two disadvantages which a member of the mechanical class especially laboured under; he was very often separated from his wife and family through his inability to bear the expense of their passage; and he had no direct method offered him for making a provision for the future. Both these drawbacks will now be removed. The family man will be henceforth granted half the amount of the passage money for his wife and children; the other half being advanced to him, if he wishes, by the company, and repaid by monthly instalments. Provident funds have also been established by the two largest companies, viz., the East Indian and the Great Indian Peninsula, to which all their existing officers and servants may, and all appointed in future must, subscribe a proportion of their salaries, the Company undertaking to make liberal contributions from the excess profits which may be realized beyond a certain limit; in the case of these companies it is 6 per cent., but it does not follow that so high a limit should be applied to smaller or less remunerative concerns. Copies of the regulations of these funds will be found in the Appendix, and I trust they may be applied to other companies.

23. In my last report I stated that the East Indian Railway Company had established a savings bank for the use of their servants. At first there appears to have been a prejudice against it. The men, it was said, suspected that the evidence which it would give of their power to save would be used against them by reducing their pay. This feeling, however, soon wore off. The number of depositors increased from 133 in December 1866 to 345 in June 1867, the amounts deposited being 30,830*l.* and 78,749*l.* respectively.

24. The following table gives the casualties amongst the Europeans and East Indians on the railways during the half-year ended the 30th June 1867.

Railways.	General.		Traffic Department.		Locomotive and Carriage Department.		Engineer Department.		Electric Telegraph Department.		Store Department.		Total Casualties of all kinds		Total Casualties by Deaths.		Average Number of Servants during the Half Year.		Length in Miles.	
	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Open.	Under construction.
East Indian	5	3	65	34	189	91	35	8	1	10	—	3	295	149	23	10	1,624	644	1,131	368½
Great Indian Peninsula	1	—	103	25	90	4	9	4	2	1	1	4	206	38	16	3	648	101	852	421½
Madras	—	2	8	7	33	15	4	11	—	2	3	2	48	37	1	—	249	379	645	186
Bombay, Baroda, and Central India	—	—	14	21	37	30	3	—	—	6	2	5	56	62	4	1	226	192	306	—
Sindh	—	1	—	—	17	2	—	—	—	—	—	—	17	3	—	1	75	62	109	5
Indus Steam Flotilla	2	—	—	—	—	—	6	—	—	—	—	—	8	—	1	—	68	24	—	—
Punjab and Delhi	—	—	5	—	12	—	5	—	—	—	—	—	22	—	1	—	201	38	273	276½
Eastern Bengal	—	—	11	12	16	4	9	5	—	—	—	—	36	21	—	—	139	34	113½	33½
Calcutta and South-Eastern	1	1	—	3	6	1	—	1	—	—	—	—	7	6	—	1	16	13	28	—
Great Southern of India	—	4	—	2	3	1	—	—	—	—	—	—	3	7	—	1	39	47	127	39½
Grand Total	9	11	206	104	403	146	71	29	3	19	6	14	698	323	46	17	9,235	1,594	3,584½	1,335½

LEGISLATION.

25. The Bill for the regulation of railways in India, which, when my last report was written, had been returned to the Government of India with the remarks and suggestions of Lord Cranborne and the various railway boards upon it, has again been sent to this country in a modified shape, and is a second time receiving the attention of the railway authorities in this country. Several modifications will be required.

26. In June last an Act was passed by the Indian Legislature "to render penal "certain offences committed by servants of railway companies." It simply applied particular provisions of the Indian Penal Code relating to public servants to persons in the employment of the railway companies.

27. An Act will also be passed during the present session to enable the guaranteed Indian railway companies to raise money on debenture stock, instead of borrowing on debentures, upon such terms as the Secretary of State in Council may from time to time determine. This stock and the interest thereon will be a first charge upon the railways, and will, moreover, be guaranteed by the Secretary of State in Council. A copy of the Act is given in the Appendix.

ACCIDENTS.

28. During the past year there have been unfortunately several severe accidents. On the 26th June a terrible one occurred on the Great Indian Peninsula Railway at Numborah, 10 miles from Bhosawul and 288 miles from Bombay. An extraordinary flood had undermined an embankment, and made a fissure in it, shortly before a train came up. The engine passed over the gap, over which the rails had remained; but the train, consisting of one first, two second, and three third class carriages, went into the abyss. Eleven people were killed and twenty injured. The primary cause would appear to have been an insufficient provision for water way; but the accident itself might have been avoided if the obvious precaution had been taken of ascertaining whether the line was clear before the train started from the last station.

29. Another occurred on the same line on the 29th August, two or three miles from Lanowlie above the Bhore Ghât incline. It was caused by a runaway engine coming into collision with a passenger train. Mr. Howard, the late Director of Public Instruction, was killed on the spot. Several people were injured. The runaway engine had been carelessly left by the driver, while attending to some trifling matter close at hand.

30. An accident also occurred on the Bombay and Baroda Railway, which was happily unattended by injury to anybody. On the 1st February seven carriages of a train got off the rails, either in consequence of the road being out of order, or from a draw bar, which was found broken, having fallen down.

SUMMARY of ACCIDENTS during the Year 1867.

Railway Company.	Passengers Killed or Injured from Causes beyond their Control.		Passengers Killed or Injured from Misconduct or Incaution.		Railway Servants Killed or Injured from Causes beyond their Control.		Railway Servants Killed or Injured from their own Misconduct or Incaution.		Persons Killed or Injured at Level Crossings.		Trespassers.		Miscellaneous.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
East Indian	—	2	5	6	2	9	32	57	1	—	19	7	11	9
Great Indian Peninsula	12	22	—	1	6	13	28	24	—	1	18	6	12	13
Madras	—	—	—	—	—	1	2	—	—	—	1	—	—	—
Bombay and Baroda	—	1	1	1	8	8	6	7	1	—	1	—	3	—
Scinde	—	—	—	—	—	2	1	6	—	—	2	—	2	4
Punjab	—	—	—	—	1	—	3	—	—	—	—	—	—	—
Eastern Bengal	—	—	—	—	—	—	3	—	—	—	1	—	—	—
Calcutta and South-eastern	—	—	—	—	—	15	1	—	—	—	2	—	—	—
Great Southern	—	—	—	—	1	—	2	—	—	—	2	—	—	—
Total	12	25	6	8	18	48	78	94	2	1	46	13	28	26

CAPITAL.

31. Upwards of 9,000,000*l.* has been added to the capital accounts of the companies during the year, making the whole amount of capital which has been raised for railways in India on the 31st March to be 76,579,016*l.* Of this sum 60,048,871*l.* consists of shares or stock, and 16,530,145*l.* of debentures. Capital raised.

32. The total expenditure on the railways which have been opened, and on those which are now in course of construction, amounted on the 31st March to 75,071,656*l.* Capital expended.

33. The expenditure during the past year was about 7,000,000*l.*, and of this upwards of 4,000,000*l.* was in England for permanent way, materials, locomotives, stores, &c. sent out from this country. This is the largest expenditure which has been incurred in any one year in England. Capital expended during 1867-68.

34. The estimated expenditure for the current year is 6,077,000*l.*, of which 1,971,000*l.* will be required in England and 4,106,000*l.* in India. Estimated expenditure for 1868-69.

35. The 75,000,000*l.* which has just been mentioned as the amount which has already been expended does not, however, represent the whole cost of the undertakings. It shows only what the railway companies have paid. In addition to that, Government has granted all the land, the value of which cannot be taken at less than 2,500,000*l.* Inasmuch, too, as the rate of exchange for converting the pound sterling, subscribed by the companies, into rupees is fixed by the contracts at 1*s.* 10*d.* the rupee, and the value of the rupee has, during the construction of the works, averaged about 2*s.*, the Government has contributed about 8 per cent. to the capital expended in India. This upon 45,000,000*l.* would amount to 3,600,000*l.* The actual cost of the railways is thus raised from 75 to 81 millions. But the amount upon which the profits are divisible is, fortunately for the companies, limited to their contribution.

36. The following table gives the expenditure by the railway companies in each year. As the expenditure applies to the works in progress, as well as to those which are finished, the mileage does not bear any relative proportion to the expenditure. This is particularly exemplified in the years 1859 and 1862. In the former 74 miles were opened, and 7,000,000*l.* were expended; in the latter 747 miles were opened, and 5,800,000*l.* only expended.

Year.	Miles opened during the Year.	Expended in England.	Expended in India.	Total.
		£	£	£
Up to 1850 -	—	130,375	44,781	175,156
In 1851 -	—	154,212	197,111	351,323
„ 1852 -	—	174,920	252,640	427,560
„ 1853 -	22¼	252,484	418,165	670,649
„ 1854 -	50¼	960,878	768,710	1,729,588
„ 1855 -	98¼	1,939,101	1,431,904	3,371,005
„ 1856 -	101¾	1,752,813	1,765,094	3,517,907
„ 1857 -	143	1,324,873	2,092,395	3,417,268
„ 1858 -	145	1,940,052	3,551,073	5,491,125
„ 1859 -	74½	2,507,949	4,654,923	7,162,872
„ 1860 -	208	2,396,924	5,192,846	7,589,770
„ 1861 -	759	1,596,010	4,962,604	6,558,614
„ 1862 -	747	1,854,289	3,956,563	5,810,852
„ 1863 -	233½	1,411,661	3,360,114	4,771,775
„ 1864 -	402¼	1,387,699	2,418,345	3,806,044
„ 1865 -	388½	2,192,090	3,192,323	5,384,413
„ 1866 -	205	3,942,598	3,816,957	7,759,555
„ 1867 -	—	4,045,584	2,979,376	7,024,960

37. The following tables, which are furnished from the Accountant-General's Office, contain the particulars respecting the past and future expenditure of each company.

Statement No. 1.

Showing the Amount of Capital estimated to be required for each Undertaking as now sanctioned, the Amount authorized to be raised, the Amount raised, and the Amount expended, to 31st March 1868.

Railway.	Amount of Capital estimated to be required.	Amount authorized by Government to be raised up to 31st March 1868.				Amount raised in England to 31st March 1868.			Amount raised in India to Date of last Advices.	Total raised to 31st March 1868.	Total Amount withdrawn for Expenditure to 31st March 1868 (partly estimated).
		Share Capital.	Debentures.		Total.	By Shares.	By Debentures.				
			Convertible into Shares.	Inconvertible.			Convertible.	Inconvertible.			
	£	£	£	£	£	£	£	£	£	£	£
East Indian - { Main line - -	27,500,000	18,807,450	2,192,550	4,450,000	25,450,000	18,363,034	2,161,450	4,450,000	299,214	25,273,698	25,952,533
East Indian - { Jubbulpore line -	3,600,000	2,173,200	1,026,800	—	3,200,000	2,129,355	1,026,800	—	7,665	3,163,820	2,409,864
Great Indian Peninsula - -	22,000,000	15,000,000	—	4,000,000	19,000,000	13,930,533	—	3,926,950	390,697	18,248,180	17,614,586
Madras - { Main line - -	6,500,000	4,349,600	1,565,350	335,050	6,250,000	4,323,480	1,456,250	335,050	—	6,114,780	6,340,890
Madras - { Bellary line -	4,500,000	3,750,000	—	—	3,750,000	3,435,661	—	—	—	3,435,661	2,445,072
Scinde - - - -	2,250,000	1,919,200	180,800	150,000	2,250,000	1,744,999	180,800	150,000	21,695	2,097,494	2,111,073
Indus Flotilla - - -	700,000	542,600	81,400	—	624,000	306,005	25,400	—	—	331,405	577,052
Punjab - - - -	3,000,000	2,150,000	100,000	500,000	2,750,000	1,530,394	—	500,000	9,859	2,040,253	2,618,391
Delhi - - - -	6,000,000	5,000,000	—	—	5,000,000	3,441,357	—	—	9,807	3,451,164	3,129,145
Bombay, Baroda, and Central India	7,750,000	6,313,600	1,086,400	100,000	7,500,000	6,161,105	1,086,395	100,000	21,664	7,369,164	7,206,126
Eastern Bengal - - -	2,800,000	2,000,000	—	662,000	2,662,000	1,894,385	—	610,700	14,413	2,519,498	2,336,286
Calcutta and South-eastern -	616,000	328,500	271,500	—	600,000	308,877	112,850	—	19,623	441,350	615,242
Great Southern - - -	1,700,000	1,074,500	175,500	100,000	1,350,000	1,073,279	175,500	100,000	1,221	1,350,000	1,354,077
Oude and Rohilkund - -	5,000,000	3,800,000	200,000	—	4,000,000	610,549	132,000	—	—	742,549	361,319
Total - - -	**93,916,000**	67,208,650	6,880,300	10,297,050	**84,386,000**	59,253,013	6,357,445	10,172,700	795,858	**76,579,016**	**75,071,656**

Accountant General's Department,
9th April 1868.

W. G. Goodliffe,
Accountant General.

Statement No. 2.

Showing the Amount raised and expended by each Company during the year ended 31st March 1868.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1867.	Sums advanced to the Companies on the 31st March 1867.	Amount raised between 1st April 1867 and 31st March 1868.		Amount expended				Total Raised during the Year ended 31st March 1868.	Total expended during the Year ended 31st March 1868 (partly estimated).
					In England, between 1st April 1867 and 31st March 1868.	In India.				
			By Shares or by converting Debentures into Stock.	By Debentures.		Date to which Accounts have been received.	Amount.	Estimated Expenditure between dates specified and 31st March 1868.		
	£	£	£	£	£		£	£	£	£
East Indian - - -	134,050	—	1,030,518	996,770	1,164,310	31st Jan. 1868	771,907	150,000	2,027,288	2,086,217
Great Indian Peninsula - -	747,420	—	2,069,200	—	1,454,227	30th Nov. 1867	448,799	280,000	2,069,200	2,183,026
Madras - - - -	194,889	—	1,189,415	—	391,586	31st Jan. 1868	178,239	50,000	1,189,415	619,825
Scinde - - - -	—	16,077	97,844	—	49,634	30th Nov. 1867	35,712	10,000	97,844	95,346
Indus Flotilla - - -	—	208,555	—	—	22,792	„	8,300	6,000	—	37 092
Punjab - - - -	—	464,755	1,390	—	12,382	„	62,391	40,000	1,390	114,773
Delhi - - - -	—	179,171	1,508,249	—	454,464	„	432,595	120,000	1,508,249	1,007,059
Bombay, Baroda, and Central India	—	400,844	952,135	—	246,912	„	71,341	70,000	952,135	388,253
Eastern Bengal - - -	—	19,749	529,459	200	177,879	31st Jan. 1868	133,819	15,000	529,659	326,698
Calcutta and South-Eastern -	—	149,549	—	—	3,038	„	18,305	3,000	—	24,343
Great Southern - - -	—	207,879	237,500	84,700	44,430	„	65,968	8,000	322,200	118,398
Oude and Rohilkund - -	—	—	405,160	—	23,930	„	—	—	405,160	23,930
Total - -	1,076,359	1,646,579	8,020,870	1,081,670	4,045,584	—	2,227,376	752,000	9,102,540	7,024,960
	Net Advance - £570,220									

Accountant General's Department,
9th April 1868.

W. G. Goodliffe,
Accountant General.

Statement No. 3.

Estimated Expenditure for the Year 1868-69 on Capital and Revenue Account.

Railway.	Estimated Expenditure from 1st April 1868 to 31st March 1869.			Sum standing to the Credit or Debit of the Companies on the 1st April 1868 (partly estimated).	Sums to be raised by the Companies during 1868-69.	Total Amount now placed and to be placed in the Home Treasury of Government for 1868-69.	Estimated Balance on the 1st April 1869.
	In England.	In India.	Total.				
	£	£	£	£	£	£	£
East Indian	400,000	900,000	1,300,000	75,000	1,325,000	1 400,000	100,000
Great Indian Peninsula	700,000	1,100,000	1,800,000	634,000	1 366,000	2,000,000	200,000
Madras	250,000	450,000	700,000	765,000	235,000	1,000,000	300,000
Bombay, Baroda, and Central India	133,000	207,000	340,000	163,000	237,000	400,000	60,000
Scinde	22,000	28,000	50,000	Deb. 14,000	65,000	65,000	1,000
Punjab	18,000	92,000	110,000	Deb. 578,000	698,000	698,000	10,000
Delhi	140,000	860,000	1,000,000	322,000	778,000	1,100,000	100,000
Indus Flotilla	12,000	20,000	32,000	Deb. 246,000	280,000	280,000	2,000
Eastern Bengal	46,000	174,000	220,000	184,000	136,000	320,000	100,000
Great Southern of India	10,000	15,000	25,000	Deb. 4,000	35,000	35,000	6,000
Oude and Rohilkund	240,000	260,000	500,000	381,000	419,000	800,000	300,000
Total	1,971,000	4,106,000	6,077,000	Cr. 2,524,000 Deb. 842,000 Net Cr. 1,682,000	5,574,000	8,098,000	1,179,000

38. The subjoined statement shows how the expenditure has been divided amongst the various works and departments of each Railway :— Capital.

Railway.	Works and Bridges.	Permanent Way and Stations.	Freight and Insurance.	Rolling Stock and Engines.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian - - - -	8,775,000	6,485,000	2,785,000 And mis. stores.	3,145,000	3,380,000	3,352,000
Great Indian Peninsula - -	6,345,600	4,938,500	1,817,700 And certain stores.	1,888,000	1,156,200	196,000
Madras - - - - -	2,446,900	2,999,800	1,061,000	798,000	717,200	362,700
Bombay, Baroda, and Central India -	2,896,500	1,735,400	586,800	1,096,800	433,800	470,000
Scinde - - - -	482,500	349,500	192,700	189,300	266,800	331,800
Punjab - - - -	215,500	691,700	444,200	312,300	371,700	420,400
Delhi - - - -	763,300 Steamers, &c.	1,348,500 Warehouses, &c.	36,400	288,300	134,000	352,000
Indus Flotilla - - -	405,290	41,200	33,000	—	61,900	90,600
Eastern Bengal - - -	1,476,600		Included under other heads	230,000	229,800	343,700
Calcutta and South-eastern - -	135,100	217,800	Do.	144,100	81,600	22,800
Great Southern - - -						
Oudh and Rohilcund - - -	67,200	89,700	43,900	55,000	27,300	87,900

39. Indian railways do not form an exception to the rule that expenditure always exceeds estimates. In some cases the cost has been three or four times greater than was expected. In others the excess has been very small. The latter is especially so with respect to the Madras lines, which certainly appear to set an example of economy both in construction and management. While so great a proportion of the system is incomplete, it is difficult to form an accurate estimate of the average mileage cost of the whole, but the actual cost of different open lines has of course varied extremely. The expenditure on the East Indian (including the losses occasioned by the Mutiny) will average about 22,000*l.* per mile; some portions have cost upwards of 30,000*l.*, but this includes double lines; some less than 15,000*l.* The expenditure on the Bombay and Baroda will average about the same until the extension to Delhi is completed; that on the Scinde will be about 20,000*l.* The Madras, on the other hand, has cost only about 12,000*l.*, the Great Southern 10,000*l.* a mile, and the line between Cawnpore and Lucknow under 7,000*l.* a mile. Capital expenditure.

40. The continued expenditure of capital on opened lines (all of which must have been approved by the Local Government), and the apparent tendency to go on in the same direction, is a matter for serious consideration.

41. The distance which separates the Boards in this country from those by whom such expenditure is initiated, throws a greater power and responsibility than usual on the executive officers. While they are devoting their skill and energy in carrying out the important work intrusted to them, it is an imperative duty to use their best endeavours to check and prevent waste and extravagance, and to enforce economical principles. These observations do not apply only to works in course of construction. When the lines are finished and open great vigilance will be required to keep down unnecessary expenditure both in capital and revenue accounts. The requisitions which are sent home for stores frequently appear to contain demands which are beyond the absolute necessities of the case; but there is naturally some hesitation on the part of the authorities in this country to decline to comply with them, being made, as they are, upon the recommendation of the railway agents, and with the approval of Government. Whether a more strict investigation should be made into departmental requirements I am unable to say, but it is a matter which demands the earnest attention of the officers of the Govern-

ment and of the railway companies. The Boards in this country have written very strongly on this subject of expenditure, and are most anxious to provide efficient checks against carelessness and extravagance. If a corresponding desire exists in India, economy will be ensured. In October last, when Mr. A. Meadows Rendel, the consulting engineer to the East India Railway Company, was about to proceed to India, the Directors wrote thus:—"The Board are alarmed at "the demands for further capital expenditure which reach England with scarcely "the exception of a mail. Putting aside the vague and so far unfounded estimate "of anticipated traffic sent from India, they fear that the increase of revenue which "may be reasonably expected from past experience is not sufficient to justify the "large and continually increasing expenditure which is represented to be required; "and they are determined to put a stop to it, until they are satisfied that the real "necessities and interests of the Company demand it. You will therefore be ex-"pected to visit the whole of the works of the main and the Jubbulpore lines, in "company with a deputation of the Agency, the locomotive superintendent, and "the traffic manager, and to discuss with them at every principal station its con-"dition in regard to works, and its actual and prospective requirements as regards "traffic; and to consider, in regard to works in course of execution or in contem-"plation, whether they shall be proceeded with or stopped." Again, "The ruling "principle which the Board prescribe for the government of yourself and every "member of the conference is, that you shall all be guided by a sense of the "necessity of confining all future expenditure of capital to the provision of such "things, appliances, and buildings as may be, in your judgment, absolutely required "for the conduct of a traffic increasing annually on the main line at the rate of "250,000*l.* per annum, and beginning on the Jubbulpore section at the rate of 25*l.* "per mile per week, and increasing at the rate of 20 per cent. per annum to 40*l.* "per mile per week."

CAPITAL RAISED ON LOAN.

Debentures.

42. The following statement shows the amount which has been issued by means of debentures. Last year it was 16,322,460*l.*, as compared with 16,458,545*l.* now.

43. The duty which is thrown upon the Government of paying off debentures when their term expires is liable to be attended with inconvenience. This and other considerations have led to the substitution of a permanent debenture stock, as a means of raising money upon more favourable terms than share capital, and of providing an investment for that class,—such as trustees, executors, and others,—which is not empowered to purchase ordinary stocks and shares. Parliamentary powers were necessary for this purpose, and, as already noticed, a Bill was introduced this Session, and has just passed. The Act provides for the issue by the Railway Companies, with the sanction of the Secretary of State in Council, of debenture stock (the interest and principal of which will be guaranteed by the Indian Government) to the extent of their existing borrowing powers. A copy of the Act will be found in the Appendix. It has been asked why, if money can be raised upon easier terms by means of a stock of this kind than by shares, this method is not resorted to altogether. The answer is, that the favourable rate upon which money can be thus raised is produced by the limit to the amount issued. There is more than one class of investors, and the object should be to divide the capital into such kinds of security as will meet the proportionate demands of each class.

State of Debenture Loans on the 31st March 1868.

Railway.	Amount.	Total Amounts.	Conditions.	Date at which Loan expires.
	£	£		
East Indian - - -	39,800		Convertible - -	5th April, 1869.
„ - - -	8,500		Ditto - - -	10th July 1869.
„ - - -	396,640		Ditto - - -	5th Oct. 1869.
„ - - -	190,000		Ditto - - -	20th Jan. 1870.
„ - - -	1,026,800		Convertible and renewable	23d March 1870.
„ - - -	1,500,000		Inconvertible - -	10th Aug. 1870.
„ - - -	1,500,000		Ditto - - -	15th Dec. 1870.
„ - - -	705,760		Convertible - -	1st April 1871.
„ - - -	779,500		Ditto and renewable -	9th Aug. 1871.
„ - - -	50,000		Convertible - -	10th July 1872.
„ - - -	1,000,000		Inconvertible - -	22nd Aug. 1872.
„ - - -	440,000		Ditto - - -	19th March 1873.
„ - - -	10,000	7,647,000	Ditto - - -	19th March 1875.
Madras - - - -	1,791,300	1,791,300	Part convertible and inconvertible.	1869, 1870, 1871, and 1872.
Great Indian Peninsula - -	3,926,950	3,926,950	Part renewable and all inconvertible.	1869, 1870, 1871, 1872, and 1873.
Sind - - - -	330,800	330,800	Part convertible and inconvertible.	Sept. 1868, and May and Sept. 1870.
Indus Flotilla - - -	25,400	25,400	Convertible - -	1st May 1871.
Punjab - - - -	500,000	500,000	Inconvertible - -	July 1868 and July 1870.
Bombay, Baroda, and Central India	237,595		Convertible - -	1872.
„ „ „ -	100,000		Inconvertible - -	1871.
„ „ „ -	388,800		Convertible and renewable	1870 or 1875.
„ „ „ -	492,400	1,218,795	Ditto - - -	1871 or 1876.
Eastern Bengal - - -	610,700	610,700	Inconvertible and part renewable.	1869 and 1871.
Oude and Rohilcund - -	132,000	132,000	Convertible and renewable	1870, 1871, & 1872.
Great Southern of India - -	175,500		Convertible - -	1870, 1871, 1872, and 1874.
„ „ „ - -	100,000	275,500	Inconvertible - -	Jan. and July 1871.

REVENUE.

44. The revenue from the Railways for the years 1866–67 was only 32,337*l.* in excess of the previous year; but there was an increase of 962,984*l.* in that year's receipts over those of 1864–65; so that in two years the revenue has increased upwards of 1,000,000*l.*

45. Last year the net revenue amounted to 2,336,871*l.* and the sum paid for guaranteed interest on the whole capital, both for the open and unopen lines, was 3,179,095*l.* In the year before these respective sums were 2,304,534*l.* and 2,936,672*l.* The net amount advanced by Government for guaranteed interest, after deducting the half excess profits of the East Indian and the Great Indian Peninsula Railways, which did not go in reduction of the same, was accordingly 842,222*l.* in 1866–67, and 632,138*l.* in 1865–66. This is a retrograde step, which is to be regretted, but the result was produced by the depressed and almost stagnant state of trade during the latter period. The traffic at the present time is also still injuriously affected by the same cause, and I fear that a falling off continues. On some lines a certain relation may be traced between the traffic and the prices of the commodities usually conveyed by the railway. A falling off in the export and import trade will also generally be accompanied by a corresponding reduction in the traffic.

The total receipts for the year 1666–67 were 4,878,527*l.*, of which 1,378,779*l.* was obtained from passengers, and 3,499,748*l.* from goods. In the previous year the total receipts were 4,537,235*l.*; 1,278,580*l.* being from passengers, and 3,258,655*l.* from goods. The interesting diagrams of the traffic, prepared by General Baker, R.E., will be found in the Appendix.

47. The following table gives the receipts and expenses of each Company during the year ending the 30th June 1867.

Traffic.

RECEIPTS and EXPENSES of the RAILWAYS for the year ending 30th June 1867.

Railway.	Receipts for Year ending 30th June 1867.				Expenses for Year ending 30th June 1867.			Net Receipts for the Year ending 30th June 1867.
	Passengers, &c.	Goods and Minerals.	Telegraph or Sundries.	Total.	Working.	Maintenance.	Total.	
	£	£	£	£	£	£	£	£
East Indian	557,511	1,488,290	111,333	2,157,134	782,897	201,544	984,441	1,172,693
Great Indian Peninsula	323,880	1,073,811	19,469	1,417,160	624,323	159,792	784,115	633,045
Madras: S.W. and N.W. Lines	168,375	280,929	16,282	465,586	137,724	66,805	204,529	261,057
Bombay, Baroda, and Central India	186,546	225,113	22,066	433,725	233,311	76,336	309,647	124,078
Scinde	15,067	96,225	—	111,292	—	—	89,136	22,156
Punjab	34,869	56,977	—	91,846	—	—	71,314	20,532
Eastern Bengal	61,666	71,608	7,083	140,357	54,111	14,247	68,358	71,999
Oude and Rohilkund*	2,540	120	—	2,660	1,160	—	1,160	1,500
Great Southern of India	26,358	27,534	1,460	55,352	19,955	5,157	25,112	30,240
Total	1,376,812	3,320,607	179,261	4,875,112	1,853,481	523,881	2,537,812	2,337,300

48. The following statements, which are compiled from information furnished by the Companies in India, contain full information regarding the traffic and working, and the train mileage receipts and expenses, may furnish useful data for future guidance, as by these the best judgment can be formed as to whether a line is worked economically or not. The number of passengers has increased from 12,867,000 in 1865–66 to 13,746,354 in 1866–67; and the gross receipts from passengers in the two years have been 1,278,580*l.* to 1,378,779*l.*, and from goods, 3,091,723*l.* and 3,320,487*l.* respectively.

* For nine weeks only, viz., from the 9th April.

Statement of Traffic Results of the Year ending 30th June 1867.

Year ending 30th June 1867.	Length of Line Open.			Length of Sidings.	Passenger Traffic.					Goods Traffic.										Number of Trains run.					No. of Miles travelled by Trains, exclusive of Shunting, &c.				
					Number of Passengers (exclusive of Holders of Season and Periodical Tickets).								Live Stock.				Minerals.												
	Double.	Single.	Total.		1st Class.	2d Class.	3d Class, including Parliamentary.	Total Passengers.	Number of Holders of Season and Periodical Tickets.	Carriages.	Horses.	Dogs.	Cattle.	Sheep.	Pigs.	Coal and Coke.	Other Minerals.	Total.	General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	Mineral Trains.	Mixed Trains.	Total.	By Passenger Trains.	By Goods and Mineral Trains.	By Mixed Trains.	By Mineral Trains.	Total.
										No.	No.	No.	No.	No.	No.	Tons.	Tons.	Tons.	Tons.									
East Indian	94½	1036½	1,131	133	34,119	111,859	4,280,642½	4,426,611½	1,018½	1,324	3,975	6,024	834	653	41	235,351	—	235,351	532,140	7,382	18,666	—	7,806	33,854	1,660,589	3,518,165	60,243	—	5,238,998
Great Indian Peninsula	98	754	853	—	32,688	207,761	2,830,164	3,070,613	1,206	654	4,077	4,575	397	207,624	17	67,368	559,790	627,158	419,607	15,889	24,612	—	—	40,501	1,103,359	1,495,918	—	29,888	2,629,665
Madras	—	645	645	61	8,019	70,375	1,833,752	1,912,146	—	1,034	3,519	2,843	—	4,538	—	—	—	—	373,193	—	—	—	10,214	10,214	—	—	1,361,794	—	1,361,794
Bombay, Baroda, and Central India	11½	294½	306	—	7,102	40,216	1,505,444	1,552,762	33	301	1,656	1,831	5,953	211,573	49	29,233	9,692	38,915	160,453	682	2,254	1,128	4,979	9,043	188,713	280,010	286,893	10,367	756,973
Scinde	5	104	109	43	2,097	5,549	135,589	143,235	3,707	60	291	693	3	174	14	9,403	—	9,403	191,958	74	890	—	1,062	2,026	2,235	87,863	128,662	—	218,760
Punjab	—	246	246	—	6,312½	25,383½	585,113	616,809	—	36	1,946	1,141	11	156	Birds. 16	—	—	—	64,028½	1,594½	267½	—	2,901½	5,764	80,918	91,532	190,038	—	362,488
Eastern Bengal	—	110	110	23½	39,827½	47,957½	1,102,804½	1,190,289½	211	160	654	1,071	65	701	—	22,596	5,419	28,015	106,539	3,325	1,470	—	676	5,971	171,764½	109,726½	56,961	—	338,424½
Great Southern of India	—	127	127	—	2,133	—	437,027	439,160	—	172	244	267	142	268	9	—	—	—	70,283	—	—	—		2,283	—	—	103,124	—	—
Calcutta and South-eastern	—	28½	28½	—	3,653	16,215	339,277½	359,145½	—	4	10	53	20	48	11	90	85	175	9,538	—	2	—	1,152	1,154	—	56	61,588	—	61,644
Oude and Rohilkund	—	42	42	—	301½	813½	34,469½	35,584½	—	—	—	87	—	—	—	—	—	—	246	—	—	—	276	276	—	—	11,592	—	11,592

STATEMENT of TRAFFIC RESULTS—*continued.*

Year ending 30th June 1887.	Number of Engines employed to perform the Work described in the foregoing Columns.	Average Fares per Mile.					Receipts (Gross) from Passenger Traffic.								Receipts (Gross) from Goods Traffic.						Miscellaneous Receipts.	Total Receipts from all Sources of Traffic.	Average Receipts per Train Mile.
		Ordinary.			Express.		Receipts from Passengers.					Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c., conveyed in Passenger Trains.	Receipts from Mails.	Total Receipts from Passenger Traffic.	Receipts per Train Mile from Passengers.	Live Stock.	Minerals.			General Merchandise.	Total Receipts from Goods Traffic.	Receipts per Train Mile from Goods.			
		1st Class.	2d Class.	3d Class, Parliamentary.	1st Class.	2d Class.	1st Class.	2d Class.	3d Class, including Parliamentary.	Holders of Season and Periodical Tickets.	Total from Passengers.						Coal and Coke.	Other Minerals.	Total.					
		d.	*d.*	*d.*	*d.*	£ *s. d.*	£	£	£	£	£	£	£	£	*s.*	£ *s. d.*	£ *s. d.*	£ *s. d.*	£ *s. d.*	£ *s. d.*	£	*s.*	£	£	*s.*
East Indian - -	544	—	—	—	—	—	38,126	43,821	467,087	4,965	553,999	74,793	—	633,796	7·38	581 0 0	156,160 0 0	—	156,160 0 0	1,335,208 0 0	1,491,950	8·51	35,361	2,161,107	8·29
Great Indian Peninsula - - - -	135	1·75	1	·50	—	—	17,163	30,800	232,848	1,787	284,634	39,227	—	323,861	5·15	7,148 10 8	29,400 17 10	42,156 17 2	71,557 15 0	995,105 3 10	1,073,811	14·07	—	1,417,161	10·75
Madras - - - -	—	2·06	·69	·34	—	—	11,095	13,797	121,263	—	146,160	18,265	1,230	165,655	2·4	634 0 0	—	—	—	280,295 0 0	280,929	4·6	10,002	455,586	6·19
Bombay, Baroda, and Central India - -	55	425	1·12	·50	—	—	4,514	10,916	155,553	30	171,678	15,207	251	187,136	11·80	11,239 0 0	21,348 0 0	7,056 0 0	28,404 0 0	189,895 0 0	229,538	10·03	—	419,024	10·95
Scinde - - - -	18	1·25	·82	·29	—	—	783	1,394	12,377	73	14,627	1,368	—	15,995	—	5 0 0	523 0 0	—	528 0 0	92,983 0 0	93,511	—	1,787	111,293	1·01
Punjab - - -																									
Eastern Bengal - -	—	1·37	·68	·51	2·062	*d.* 1·03	4,075	3,023	54,096	466	61,663	4,916	2,582	69,163	7·42	140 0 0	7,009 0 0	2,565 0 0	9,714 0 0	61,894 0 0	71,608	9·25	—	140,771	8·33
Great Southern of India - - -	26	1·50	1·	·50	—	—	487	337	24,189	—	25,113	1,245	—	25,160	2·35	—	—	—	—	2,735 0 0	30,194	2·50	—	55,354	5·8
Calcutta and South-eastern - - -	—	1·37	·68	·34	—	—	667	764	5,297	3	6,733	267	—	7,000	2·26	—	—	—	—	1,590 10 0	1,675	1·55	186	8,862	2·85
Oude and Rohilkund -	4	2·33	1·13	·33	—	—	119	153	2,056	—	2,329	210	—	2,540	4·35	—	—	—	—	120 0 0	120	·20	—	2,659	4·57

Year ending 30th June 1867.	Maintenance and Renewal of Way and Works.		Cost of producing Locomotive Power by Wages and Materials.		Repairs and Renewals of Carriages and Waggons.		Traffic Charges.				Rates and Taxes.		Compensation for Personal Injury, &c.		Compensation for Damages and Loss of Goods.		Legal and Parliamentary Expenses.		Miscellaneous Working Expenditure, not included in the foregoing.		Total working Expenditure.	
							Coaching.		Merchandize.													
	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.
	£ s. d.	d.	£ s. d.	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	s.
East Indian	209,243	8·50	347,323	15·25	95,129	4·	168,042	7·25	—	—	1,869	·14	958	—	24,383	1·12	283	—	147,819	6·34	986,053	3·51
Great Indian Peninsula	159,702	14·52	337,163	30·72	64,396	5·8	41,932	3·8	119,563	11·	—	—	4	—	724	·66	3,105	·28	57,390	5·24	784,115	5·90
„ (North-west Line)	4,750	5·2	11,472	12·7	1,470	1·6	1,777	2·	3,749	4·1	19	—	—	—	27	—	1	—	1,976	2·2	25·241	2·31
Madras (South-west Line)	62,058	13·	62,615	13·	8,377	1·8	11,806	2·50	19,196	4·	362	—	—	—	1,053	·3	52	—	13,772	2·9	179,288	3·08
Bombay, Baroda, and Central India	76,337	21·71	97,242	27·66	45,434	12·92	18,123	5·15	28,131	8·00	266	·08	—	—	4,694	1·33	6	—	39,415	11·21	309,648	7·34
Scinde	17,616	20·	38,673	48·	3,961	4·80	5,355	4·89	10,709	12·	244	—	—	—	223	—	137	—	12,218	15·	89,136	8·
Punjab	12,909 15 8	8·25	25,885 8 2	16·50	1,780	12·67	14,423	9·76	455	·51	—	—	—	—	426	·26	—	—	15,483	9·75	71,314	4·12
Eastern Bengal	14,246	10·62	20,989	14·84	2,918	2·12	7,914	5·62	5,713	4·	513	·38	—	—	351	·19	249	·13	15,379	11·	68,272	4·
Great Southern of India	5,157	5·75	11,865	12·80	3,486	3·78	—	—	3,630	4·	—	—	—	—	—	—	—	—	975	65·	25,113	2·25
Calcutta and South-eastern	2,754	10·723	4,468	17·39	239 5 8	·932	3,019	11·736	—	—	123	·482	—	—	219	·856	238 3 9	·928	1,337	5·208	12,401	4·282
Oude and Rohilkund	—	—	435	9·01	12	·26	291	—	—	6·033	—	—	—	—	—	—	—	—	420	8·71	1,160	2·002

49. The Table which follows gives separately, for the sake of comparison, the mileage receipts and expenses of each Company, also the average mileage results of the Railways in the United Kingdom, and the same information with respect to the Grand Trunk of Canada Railway. The data contained in this Statement furnishes the best means of forming a judgment of the value of each undertaking, as well as to whether it is worked economically or not.

TRAIN MILEAGE RECEIPTS and EXPENSES, 1866–67.

Company.	RECEIPTS.	EXPENSES.										
	Average from all Sources.	Maintenance.	Locomotive.	Rolling Stock.	Passenger Traffic.	Goods Traffic.	Rates and Taxes.	Personal Compensation.	Compensation for Damage.	Legal Expenses.	Miscellaneous.	On account of all Departments.
	s.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*s.*
East Indian	8·26	8·50	15·25	4·	7·25	—	½	—	1·12	—	0·34	3·51
Great Indian Peninsula	10·77	4·52	30·72	5·6	3·8	11	—	—	·06	·28	5·24	5·96
Madras	6·10	12·90	12·80	1·8	3·25	4	—	—	·30	—	2·9	3·08
Bombay, Baroda, and Central India	10·95	21·71	27·66	12·92	5·15	8	·08	—	1·33	—	11·21	7·34
Scinde	10·	20·	48·	4·80	4·80	12	—	—	—	—	15·	8·70
Punjab	—	8·25	16·50	12·87	9·76	·51	—	—	·26	—	9·75	4·12
Eastern Bengal	8·33	10·62	14·84	2·12	5·62	4·	·38	—	·19	·13	11·	4·
Great Southern	5·8	6·	12·6	3·50	—	4·	—	—	—	—	·62	2·26
Calcutta and South-eastern	2·85	10·72	17·39	·93	11·75	—	·48	—	·85	·92	5·20	4·28
Oude and Rohilkund	4·57	—	9·01	·26	6·04	—	—	—	—	—	8·71	2·
Great Britain (1865)	5·12	5·50	8·	2·75	8·50	—	2·25	2·50	—	—	—	2·47
*Grand Trunk of Canada (1866)	5·66	11·50	14·	4·	13·	1·50	1·50	—	—	—	4·	4·

* From the Report of Captain Tyler, R.E.

50. A marked difference will be observed between the expenses in the locomotive departments of the Bengal and the Bombay lines, showing the great importance of the fuel question. On the Madras lines the difference is not so great, although they are as dependent upon England for coal as the lines in Western India. This is partly due to the more general use of wood, but partly also to an economical system of management, which reflects credit on the Railway authorities in the Madras presidency. With regard to wood fuel, measures have been taken by the Government for planting and preserving forests for the purpose. With respect to coal, an abundant supply is obtained in Bengal; but the beds in Central India have not yet been made available for railway purposes, access to them having been delayed by the tardy operations on the Great Indian Peninsula railway. A short branch to the mines will be required when the trunk line to Jubbulpore is completed; and it is to be regretted that arrangements have not already been made for carrying out this work, so that the coal may be ready by the time it is wanted. Other places in the neighbourhood of the Great Indian Peninsula Railway, where coal is known to exist, have been explored, but the result of the exploration has not yet transpired.

51. The following Table shows the amount of fuel which has been sent from this country during the year. A patent fuel, it will be observed, has been tried, and hitherto the reports have been favourable as to its suitableness for locomotive purposes. The cost of coal at Bombay was very much enhanced by the great demand for it, as well as for shipping, at the commencement of the Abyssinian expedition. Australian coal has been supplied at Bombay at rupees 25 or 50*s.* a ton. No report has yet been received of its quality.

FUEL Exported from England.

Railway.	Coal, Coke, and Patent Fuel sent out during 1867.	Cost in England.	Freight, &c.	Average Cost per Ton on Delivery in India.
	Tons.	£		s.
East Indian -	Coke - 1,665	3,886		46
	„ - 980	3,579		73
		£	£	
Great Indian Peninsula	Coal - 49,354	27,418	98,708	51
	Coke - 18,329	21,855	34,882	62
	Patent fuel 11,361	8,031	22,763	54
Madras - -	Coal - 3,778	2,075	8,131	54
	Coke - 8,142	6,319	17,825	59
	Patent fuel 5,351	3,903	11,825	59
Scinde -	Coal - 5,348	2,850	11,335	54
Great Southern -	Coal - 2,847	—	—	57
	Coke - 440	—	—	76
Bombay and Baroda -	No coal was sent out by this Company during the year, a plentiful supply having been provided the year before. The Company has a contract for 10,000 tons of Australian coal, but no ship had arrived at the close of 1867.			

52. One great advantage of the guarantee system is that it provides effectual means for keeping the capital and revenue accounts perfectly distinct. Every sixpence which is advanced by the Government for interest on the capital, both before and after the lines are opened, is charged against revenue. An account is kept of the sums so advanced, and the Government is reimbursed, under the terms of the contracts, out of the profits of the Railways. Rules have, moreover, been laid down for the guidance of those who have to make up and examine the half yearly revenue accounts. True and real profits are carefully defined, and it is shown how they are to be ascertained. The confusion between capital and revenue accounts which has prevailed so much among railways in this country, and which has led to the undue increase of capital, and to the conferring upon the undertakings a deceptive value, is thus rendered impossible. Under these rules* all the proper and legitimate outgoings and charges of a half-year, whether applicable to the working or maintenance of the line, have to be determined and paid, or, if not actually paid, the amount due is set aside out of the receipts before the sum applicable to dividend is arrived at. Some companies have gone even beyond this, and have, to my mind, wisely established reserve funds for maintenance purposes. The expenses attending the repairs and revenues of a railway are thus more equally and therefore more justly distributed. Objections are, however, taken to this practice by some, on the score that all repairs and restorations are made as they are required, and that the continuous attention to the requirements of a line is sufficient to ensure the proper annual outlay; but it must be borne in mind that there is a gradual deterioration going on which is not always visible at the time. Rails are always *wearing* out, but they are not *worn* out until they have performed certain work. The time must come when a general replacement will be necessary, the expense of which would

Revenue and Capital.

Reserve funds for renewals, &c.

* The following are the rules in question,—

The Government Consulting Engineers shall satisfy themselves, with reference to each Railway with which they are connected, that the way and the works and rolling stock, the maintenance of which is chargeable to revenue, are efficiently maintained, and are in good repair at the end of each half-year; or, if that be not the case, that in making up the half-yearly revenue account adequate funds have been reserved for their repair or restoration. They shall add a certificate to the half-yearly revenue account in the one of the two subjoined forms which may be applicable to the case.

Form I. "Certified that the way and works and rolling work were efficiently maintained during the "half-year, and that they were at the end of the half-year in good repair."

Form II. "Certified that adequate funds have been reserved in this Revenue Account for bringing "the way and works and rolling stock into a state of good repair."

Reserve funds.

fall very heavily and unjustly upon the revenue of the two, three, or even four years in which it took place. It is also argued that, as there is a certain ratio between the amount of traffic on a line and the wear and tear, the charge is and ought to be higher, and can be better met, when the traffic is large. By referring to English lines experience shows that this position is not borne out. The profits of a railway are there found to be much greater in proportion to its traffic in the earlier years of its existence than afterwards. In a recent report upon Railways in the United Kingdom, it was remarked that the "permanent way was beginning to need general replacement." No fund having been provided to meet the expense which this implies, it will have to be borne by the revenues of one, two, or more years. And what will be the profits when the receipts are subject to this charge? Taking all these matters into consideration, I submit that it is right, so far as may be practicable, to lay aside yearly or half yearly such a sum as would provide a fund equal to the ascertained average cost of maintaining and repairing a line for a certain number of years, taking out of the fund the actual charges as they occur. And if the principle be correct, it applies with peculiar force to Indian railways, which are subject to the influences of a tropical climate, with its occasionally violent floods and hurricanes. The plan had been attempted and abandoned in the case of English railways, because there was no sufficient security against the employment of the fund for other purposes than that for which it was designed. But with Indian Railways it is different, as they possess a machinery by which such a fund will be preserved inviolate for application to its intended objects.

Working expenses.

53. One question connected with the subject of traffic has been under consideration this year, viz., the proportion of the dead weight of the vehicles to their carrying power. It has been found, upon examination, that the carrying power of some of the existing trucks and wagons may be increased at small cost, either by strengthening the wheels, by increasing the length or by raising the sides in case of light goods. Passenger carriages may also be made to accommodate larger numbers by lengthening the vehicle, and thus providing the means of making additional compartments.

Transit duties.

54. I alluded in my last Report to the inconvenience which was caused to certain traffic on the Great Indian Peninsula Railway by the mode of collecting the salt and sugar duties at the frontier of the Bombay Presidency and the Central Provinces. In April last you expressed to the Government your hope that means would be devised whereby the collection of the frontier duties would be secured with only a minimum of interference with railway traffic. That hope has been realized. The duty is now paid at all the railway stations where the salt bags are put on the railway, so that trains are not now delayed and examined at the frontier.

RATES AND FARES.

55. The new system under which the Railway Companies were allowed to regulate the fares, under a maximum fixed by Government has come into operation this year. It is likely, I think, to work advantageously to all concerned. If, on the one hand, it is argued that the tendency of the Railway Companies is to adopt high rates, it may, on the other, be contended that the Government is disposed to fix rates unduly low ;* the one being at the expense of the travelling public, the other at the risk of success to the railways. But the fact is, the interests both of the Government and of the Companies are the same.

56. From motives of self-interest, the Companies will find it expedient to make such arrangements as will increase the taste for travelling amongst all classes, especially the lowest, and will encourage the use of the railway for the conveyance of merchandise. The Directors are, I know, anxious on other accounts that fares should be moderate, conveyances safe and comfortable, travelling punctual and convenient. More than this Government cannot desire. The object both of Government and the Companies thus being the same, it is desirable to fix the responsibility of accomplishing it somewhere. Those who are specially engaged to manage the railway are surely, under the arrangement made, the best fitted to take that responsibility.

* As an example of the effect of reducing fares too low, it may be mentioned that recently it was thought desirable to lower the rates for goods on the Bombay, Baroda, and Central India Railways, in order to draw traffic from the sea. The result has been a great diminution of profits.

57. It may be observed with regard to the interest of the Government in this matter, that there is a difference between the position and responsibilities of the Government in India, and the Government or Legislature in this country. In both countries the authorities are bound to see that the full advantages of the railway are secured to the public upon reasonable terms, and in both countries they are bound to take care that the Companies have powers to protect themselves as well as their passengers and customers. The difference consists in the Government of India being, under the guarantee system, directly interested in the pecuniary success of the railways. While, therefore, the Indian Executive may require such regulations to be observed, and such charges to be made, as will secure to the people the proper enjoyment of the railway, they are also equally concerned with the Companies in pursuing a system of management which should make their lines remunerative, and have the effect of relieving the State from the payment of the current guaranteed interest, and of liquidating the debt for advances of past years. Railways confer general advantages upon a country, but they likewise confer special advantages upon a particular class; and it is only right, therefore, to endeavour to relieve the country at large from the burden of the guarantee before the travelling and trading portion of the community are benefited at the expense of the whole. It will, however, be found generally that the amount of profit is the test of usefulness, and that the higher the receipts the more sure you may be that the fares are suitable. Rates and fares.

GUARANTEED INTEREST.

58. It will be seen by the subjoined statement that the amounts for which the Government was last year responsible on account of Guaranteed Interest was 3,237,937*l.* Of this sum, however, about 2,500,000*l.* was paid by the Companies themselves, so that the advances by Government really only amounted to little more than 700,000*l.* In the previous year the net amount so advanced was 800,000*l.*, and for the year before that 1,450,000*l.*

59. The whole sum which has been paid by Government for Guaranteed Interest since the commencement of the guarantee system now amounts to 22,212,505*l.*, of which about 9,500,000*l.* has been recovered from the Railway Companies, leaving about 12,000,000*l.* as their present debt, which is chargeable against the half surplus profits over 5 per cent. This sum represents the amount which the Government has actually paid. Spread over eighteen years it gives an average annual charge upon the Revenues of India of 666,666*l.*

60. In the year 1850 the amount paid was 23,790*l.* In 1855 it was 297,039*l.* In 1860 it had reached 1,422,492*l.*, but was reduced to a net payment of about 1,000,000*l.* by the earnings of the Railways. In 1865 2,796,676*l.* was paid, and about 1,800,000*l.* received back in reduction thereof.

Statement of the Total Amount of Guaranteed Interest advanced to each of the under-mentioned Indian Railway Companies to 31st December 1867.

Company.	Interest paid up to 31st December 1866.	Interest paid during 1867.			Total Amount paid up to the end of 1867.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian - - -	8,622,036 12 9	1,277,210 10 4	12,417 18 5	1,289,628 8 9	9,911,665 1 6
Great Indian Peninsula	4,149,575 11 10	744,046 14 3	19,234 4 1	763,280 18 4	4,912,856 10 2
Madras - - -	2,575,022 2 8	403,988 15 1	—	403,988 15 1	2,979,010 17 9
Scinde - - -	632,119 14 5	98,147 15 0	*542 7 6	98,690 2 6	730,809 16 11
Punjab - - -	518,116 10 11	98,955 10 11	*239 0 3	99,194 11 2	617,311 2 1
Delhi - - -	195,033 12 1	80,033 10 10	*197 10 0	80,231 0 10	275,264 12 11
Indus Steam Flotilla -	117,751 14 7	16,570 5 0	—	16,570 5 0	134,321 19 7
Bombay, Baroda, and Central India - -	1,341,378 3 0	305,880 5 10	1,083 4 4	306,963 10 2	1,648,341 13 2
Eastern Bengal - -	441,926 1 11	93,982 19 4	506 9 6	94,489 8 10	536,415 10 9
Calcutta and South-Eastern - - -	120,505 9 11	22,333 0 0	567 0 3	22,900 0 3	143,405 10 2
Great Southern of India	218,160 7 1	48,955 17 2	—	48,955 17 2	267,116 4 3
Oude and Rohilkund -	42,941 13 1	13,045 0 3	—	13,045 0 3	55,986 13 4
Total - - £	18,974,567 14 3	3,203,150 4 0	34,787 14 4	3,237,937 18 4	22,212,505 12 7

NOTE:—The sums marked * are the interest for one half-year only, the accounts of the second half-year's payment not having been received from India.

Accountant General's Department,
26th March 1868.

W. G. GOODLIFFE,
Accountant General.

61. The following statement will show approximately what each Company has received, and paid back, on account of Guaranteed Interest.

Company.	Total Amount of Guaranteed Interest paid by the Government to the 31st December 1867.	Amount of Net Revenue and Surplus Profit paid to Government to 31st December 1867.	Amount due to Government, and chargeable against half Surplus Profits over 5 per cent.
	£	£	£
East Indian	9,911,665	4,820,450	5,091,215
Great Indian Peninsula	4,912,869	2,291,948	2,620,921
Madras	2,979,011	1,086,979	1,892,032
Bombay, Baroda, and Central India	1,648,342	519,279	1,129,063
Scinde	730,810		
Punjab	617,311		
Delhi	275,264		
Indus Flotilla	134,322		
Eastern Bengal	536,416	251,962	284,454
Great Southern	267,116	99,955	167,161
Oudh and Rohilkund	55,987	1,506	4,481

EAST INDIAN.

62. The principal event connected with this Company's operations during the year has been the completion and opening in August of the line from Allahabad to Jubbulpore, a distance of 225 miles. This addition makes the system of open railway now in this Company's hands 1,356 miles in length. As before observed, the main advantage of the Allahabad and Jubbulpore line is in abeyance while the other portion of the line to Bombay is unfinished, but a certain amount of local traffic is carried on, and has been gradually increasing, and arrangements have been made for conveying passengers by coach between Jubbulpore and Nagpore, whereby the journey between Calcutta and Bombay can be made in five days.

63. The only portion of the East Indian Railway, irrespective of the doubling of certain sections of the open line, which now remains to be finished is the Chord line, and this, it is expected, will be completed next year, but the progress in the execution of the work has not been so satisfactory as it should have been. While these are going on, the expenditure on capital account must necessarily continue. But the disposition to increase works, which was manifested in the demands sent to this country from India, and in the continued excess of expenditure over estimates, seemed to require some extra check. The Directors accordingly determined to institute a searching investigation into the matter, and deputed their Consulting Engineer, Mr. A. M. Rendel, to proceed to India, personally to inspect the works, and to confer with the agent and other officers of the Company on the spot, with the view of placing a limit to the demand for capital, and of checking the tendency to increased expenditure. Mr. Rendel's mission has been attended with success, and has had the effect of reducing some of the demands and estimates which had been made.

64. The traffic during the year has been greatly checked by the commercial state of the country. The Company were, however, enabled, for a second time, to declare a higher dividend than the five per cent. guaranteed for the half year ending the 30th June. The revenue accounts for the half year ending the 31st December last have not yet been received, so that I am unable to show the comparative earnings of the last two years.

GREAT INDIAN PENINSULA.

65. The most prominent event connected with the history of this undertaking during the year has been the unfortunate failure of some of the principal bridges on the open and unopen lines, whereby traffic has been interrupted, and delay produced in the completion of the railway to Jubbulpore. Mr. G. Berkley, the Consulting Engineer to the Company, proceeded to India in November last, to examine, in conjunction with the Government officers and railway engineers in the spot, all the works

on the line, with the view of adopting such measures as would remedy, in as complete and prompt a manner as possible, the defects which might appear. These operations will necessarily involve large expenditure, and will postpone for some time the opening of miles of railway which it was expected would have been, ere this, yielding returns; but it is most essential that no doubts should exist with respect to the safety and permanence of the line, and the necessary alterations will be undertaken with vigour and promptitude. Notwithstanding these lamentable drawbacks, the railway has a grand future before it. When brought into perfect condition, it will be a magnificent work, and it does not require much foresight to see that the traffic will be immense, and, properly managed, remunerative.

66. Upon the Company agreeing to apply all the profits which were earned during the half year ending 31 June 1867 towards the repair of the defective works, the Government allowed all further outlay on account thereof to be charged to capital.

67. The length of the Company's system now open is 852 miles, leaving 421 miles to be finished. The opening of the line to Nagpore in February 1867, by the completion of the section between Sindee and that place, was an important event, as bringing the railway into the heart of the cotton district of Central India. Passengers and mails are now taken by this route to Calcutta, coach conveyances being provided between Nagpore and Jubbulpore.

68. The revenue of the year ending 31st December 1867 was as follows, as compared with that of the previous year:—

	Receipts.	Expenses.	Net.
	£	£	£
1866 -	1,252,962	716,628	536,334
1867 -	1,486,712	828,006	658,706

MADRAS RAILWAY.

69. No increase has been made to the open length of this Company's lines during the past year. The works in progress in the north-west line have not proceeded so rapidly as was expected, but they are now being carried on with more energy. There is less cause for regret in the delay, as the works on the Great Indian Peninsula Railway have been so retarded that they will not probably be finished by the time the Madras line is ready to be opened to Raichore, the point of junction. The through communication between Bombay and Madras will not, I apprehend, be completed before the year 1871.

70. The traffic gradually but steadily improves. The state of trade has had a depressing effect here as elsewhere; but, notwithstanding this, the receipts bear a favourable comparison with those of the previous year, and the expenses of maintenance and working exhibit results which bear evidence of the good and economical management which has generally distinguished this Company. They were as follows:—

South-West Line.

	Receipts.	Expenses.	Net.
	£	£	£
1866 - -	376,539	180,304	196,235
1867 - - -	382,463	171,609	210,854

North-West Line.

	Receipts.	Expenses.	Net.
	£	£	£
1866 -	61,714	20,199	41,515
1867 - - -	88,529	31,645	56,883

BOMBAY AND BARODA RAILWAY.

71. The only operations at present coming under the category of construction works in this Company's railway are those on the island of Bombay, and those connected with the bridge over the Saburmuttee river at the other end of the line. Both these have advanced during the year, but suggestions have been made with respect

to the goods terminus at Bombay which have caused the question as to its future permanent site to be reopened. It rests between Colaba and Moodee Bay. The works in the neighbourhood of the Nerbudda river were again damaged this year by heavy floods. The embankments and one or two small bridges only suffered, the large bridge over the river sustaining no injury. The traffic was interrupted for a few weeks. It is satisfactory to report that the result of an examination of the iron piles of the various bridges showed that no corrosion had occurred, and that, in the opinion of the officers who examined them, no injury need be apprehended, through the action of the water upon the iron, for many years to come.

72. The traffic has been much depressed by the commercial state of the Presidency, and by the successful competition of the sea boats. The low price of cotton has induced the merchants and planters in Guzerat to adopt the cheapest rather than the quickest mode of conveyance. The distance of the line from these cotton districts will make the sea competition formidable, especially when prices are low.

73. The traffic for the last two years was as follows:—

	Receipts.	Expenses.	Net.
	£	£	£
1866 - -	407,688	293,234	114,454
1867 - - -	425,050	282,899	142,151

SCINDE.

74. All the bridges and culverts which where washed away by the extraordinary floods of 1866 have been thoroughly repaired or reconstructed, and the line has been placed in a sound condition.

75. The traffic has improved, notwithstanding the continued depression of trade, and the expenses of working have been rather less, but there is still room for economy in some of the departments.

76. The short length of this line, and its high cost, tend to contract its paying powers. It should be looked upon as a part of a line of communication (and sooner or later that line will be a railway) between Kurrachee, the Punjab, and the North-Western Provinces. In this light it becomes the terminus, as it were, to a large system, and its capital cost is spread over the whole.

77. It is satisfactory that the reports lately received of the effects of the works undertaken for the improvement of the harbour of Kurrachee have been more favourable, and that those works which had been suspended will now be resumed.

78. I regret to say that the arbitration in the case of Bray v. the Scinde Company, the protracted and expensive proceedings of which have caused so much disappointment and dissatisfaction, still continues. The action was commenced by the contractors nearly eight years ago, and expenses to the amount of 27,000*l.* have already been incurred by the Company alone.

79. The traffic during the last two years was as follows:—

	Receipts.	Expenses.	Net revenue.
	£	£	£
1866 - -	100,348	83,268	17,080
1867 - -	117,947	97,689	20,258

INDUS FLOTILLA.

80. The four new steamers which were sent out from this country to augment the flotilla have been put together and connected. They are pronounced to be fine, well-constructed vessels, and are expected to work better than those previously on the line. A few modifications in the details of one or two of them were, however, required, and these are now been carried out under the directions of Captain Wood, the agent and Superintendent.

81. The floating dock for Kotree has been finished and sent out, but has not yet been erected.

82. The flotilla now consists of 16 steamers, inclusive of the three tugs and 27 barges.

PUNJAB.

83. The length of this line has been reduced from 253 to 246 miles, in consequence of an alteration in the route of the branch from Moultan to the river Indus. The alteration was rendered necessary by the cutting away of the river bank. The traffic developes very slowly, and the expenses at present bear a high proportion to the receipts.

84. The isolated or disconnected position of the line operates against its present success. The traffic now for the most part is of a local character, for the inconvenience and delay which occur in the conveyance of merchandise, caused by the necessity of twice breaking bulk in the course of the journey to Kurrachee, tend greatly to diminish its usefulness as a means of transport to the port of Kurrachee. On the eastern side a remedy will soon be applied by its junction at Umritsir with the Delhi Railway, now in course of construction, and partly open, which will bring upon it considerable traffic from the fertile districts south of the Sutlej.

85. The results of the traffic during the past two years were—

	Receipts.	Expenses.	Net Revenue.
	£	£	£
1866 - - -	94,079	70,640	23,457
1867 - -	94,865	not received.	

DELHI.

86. Fifty-four miles out of the 320 which constitute the railway bearing the above title have been opened during the past year; one section of 28 miles at the Delhi end, between Meerut and Ghazeeabad, where the junction is formed with the East Indian Railway; and one of 26 miles at the Umritsir extremity, extending from that place to the river Beas.

87. The works on the remaining portion of the line are, upon the whole, proceeding satisfactorily, and some of the bridges are advancing towards completion. It is expected that the section between Meerut and Umballa, about 120 miles in length, will be opened early next year. The traffic has been very limited, and on the Meerut and Delhi section was for a short time interrupted by damage done to the works by the severe floods of last season.

EASTERN BENGAL.

88. The construction of the extension line to Goalundo is being prosecuted with vigour, and, with the exception of the bridge over the Gooraie river, the works are expected to be finished in the course of next year. Arrangements will probably be made for establishing a temporary ferry at the site of the bridge, so as to enable the traffic to Goalundo to commence as soon as the railway is ready. The floods in September last were very violent, and caused considerable damage to some of the open portions of the line, but the traffic was not stopped, although interrupted for a few weeks.

89. The traffic has improved, notwithstanding the state of trade; and a considerable increase to the goods traffic may be expected when the extension is open.

90. The results of the last two years are as follows:—

	Receipts.	Expenses.	Net Revenue.
	£	£	£
1866 - - -	141,025	77,851	63,174
1867 - -	156,917	79,072	77,844

CALCUTTA AND SOUTH-EASTERN.

91. This undertaking has been transferred from the Company to the Government. The continued deficits in the revenue, although small, emperilled the dividend of the shareholders. In the hope and expectation that the results of the traffic would become better, the Secretary of State did not for some years allow the

deficits to be made up by deductions from the amount paid for guaranteed interest; but the Government of India at length recommended that the Company should be relieved from the management. The failure was not attributable to any proceedings of the Railway Company; but it was expected that economy might be secured by amalgamating the line with some other undertaking. It is clear, however, that its success depends upon the policy which may be pursued with regard to the formation of the new port and town of Canning. The capital was returned to the shareholders on the 1st April without any deduction whatsoever, with interest up to that date.

GREAT SOUTHERN.

92. The extension of this line to Erode, where it forms a junction with the Madras Railway, was completed and opened for traffic on the 1st January past. Its total length, which now extends from Negapatam to Erode, is 166½ miles, and it has been constructed for the same moderate cost as the first portion, viz., about 10,000*l.* per mile. Surveys are being made, with the view to its further extension in a southerly direction to the port of Taticorin.

93. The traffic is at present moderate, but it may be expected to improve, now that the junction has been formed with the Madras Railway.

94. In 1866 the receipts amounted to 45,582*l.*, and the expenses to 20,888*l.*, leaving a net profit of 24,694*l.* Last year (1867) the receipts were 58,191*l.*, and the expenses 27,682*l.*, the net revenue being 30,509*l.*

OUDE AND ROHILCUND.

95. The principal proceedings relating to this undertaking which have taken place during the year have consisted of preliminary investigations. In August the contract between the Company and the Government was executed. Immediately after, Major-General Beadle, late R.E., was appointed Agent to the Company in India; and all the necessary measures were taken for ascertaining the best route, and for arranging the order in which the various sections of the railway should be undertaken, and the manner in which they should be executed. The system embraces a length of 672 miles, consisting of 430 miles of main line through Oudh and Rohilcund, extending from Buxar to Mooradabad, with branches to Cawnpore 81 miles, to Benares 76 miles, to Fyzabad 14, and to Nynee Tal 71 miles. An inquiry has also been made into the proposed system of permanent way, and into the engines and rolling stock, by a committee appointed by Government for the purpose. A light description of railway, and a peculiar kind of locomotive, had been adopted by this Company; and it was desirable to ascertain whether they could be advantageously applied to the important system which they had undertaken to construct, or whether they could be improved. The committee consisted of Col. R. Strachey, R.E., Mr. Power, Chief Engineer of the East Indian Railway, Mr. Prestage, Agent and formerly Chief Engineer to the Eastern Bengal Railway, Colonel Hutchinson, R.E., and Major Hovenden, R.E.

96. With regard to the order in which the construction of the different sections should proceed, the Committee recommend that operations should commence on the eastern portion of the system, viz., between Benares, Fyzabad, and Lucknow, a length of 250 miles, postponing for the present the branch to Buxar.

97. The continuation of the existing line from Lucknow as far as Byram Ghat is to be executed upon the same system of permanent way, but the Committee hesitate about recommending the general adoption of the system, considering that the present experience is too short to admit of a positive conclusion on the subject.

98. It will be recollected that a branch to the Nynee Tal iron works is included in this Company's system. Everybody agrees that arrangements should be made for reopening these works on a scale commensurate with the demand for iron in this part of India, which must inevitably increase year by year. It is proposed to commence the construction of the line from Nynee Tal, and to employ the iron manufactured at the works. This would accomplish the twofold object of making a cheap line and of giving a fair start to an industry which it is most important to develope.

SUMMARY.

99. The following is a brief summary of the foregoing information :—

The length of open line has been increased during the year to 3,943 miles by the completion of 349 miles. There are 1,665 miles now in course of construction, and various proposals for extending the railway system are under consideration. Materials to the amount of 333,329 tons have been sent out from this country, at a cost of 3,827,420*l.* The whole expenditure in this country during the year was about 4,000,000*l.* In India it was about 3,000,000*l.* The locomotive stock has been increased by 151 engines to 786 in all. The passenger carriages, which on the 1st May 1867 amounted to 1,973, now number 2,733; and 2,043 trucks and waggons have been added to the former stock of 16,162. The proprietors of Indian stock and debentures have increased from 43,824 to 49,690.

100. Upwards of 9,000,000*l.* has been added to the capital of the railways, making the whole amount that has been raised up to the 31st March last 76,579,000*l.*, of which 75,071,600 has been expended.

101. The gross receipts for the year ending the 30th June 1867, were 4,875,112*l.*, as compared with 4,537,235*l.* of the previous year. The working expenses were 2,537,812*l.* and 2,225,495*l.* respectively. The net receipts in 1867 were 2,337,300*l.*, and 2,304,534*l.* in 1866. In 1867 the number of passengers was 13,746,354, of whom 13,074,980 were 3rd class. In 1866 the total number was 12,867,000. The sum paid by passengers last year for fares was 1,376,812*l.*, as against 1,278,580*l.* of the previous year; and the amount received for the conveyance of goods was 3,320,607*l.*, as against 3,091,723*l.* The train miles run were 10,980,319 and 10,120,920 respectively.

102. These results would have been more satisfactory if the trade of the country had not received so severe a check as at times almost to produce stagnation. Comparisons are more striking when taken back a few years. A better idea of the progress which has been going on may be formed by bringing the present in juxtaposition with ten years ago. Then it took about four weeks to travel by dâk, and as many months to convey a regiment from Calcutta to Simla; now it occupies five or six days. Then about 300 miles of railway were open throughout all India, and about 2,000,000 of people travelled on them; now there are nearly 4,000 miles, traversed by 13,746,300. The capital expended ten years ago amounted to about 20,000,000*l.*; now it amounts to upwards of 75,000,000*l.*

103. During 1857-58 the net revenue derived from the railways was 111,446*l.*; last year it was 2,336,871*l.* But what is more remarkable, although the capital had increased from twenty to seventy-five millions, and the guaranteed interest in proportion, the net amount paid by the Government for guaranteed interest in the two years 1857–1867 was about the same, viz. 700,000*l.* What will be the condition of these undertakings ten years hence it is not within my province to predict, but while the material improvements which these facts indicate are going on, and while the country is being, as it were, garrisoned from north to south and from east to west, a great social change is taking place which cannot but have a most beneficial effect upon the people at large.

I have the honour to be,
Sir,
Your most obedient, humble Servant,
JULAND DANVERS.

* The following, an extract from a letter from a native, Mr. A. Sashiah, deputy collecter, Tanjore, is an example.

"Social relationships have vastly multiplied and are daily multiplying. Parents who would not "think of marrying their children in distant places have no scruple to do so, the railway having in fact "annihilated the distance. Such connexions render frequent travelling necessary, and the railway is ever "ready at their service."

APPENDIX.

India Office,
London, 16th January 1868.

Railway,
No. 3.

To His Excellency The Right Honourable The GOVERNOR GENERAL OF INDIA in Council.

SIR,

Para. 1. Numerous communications have within the last twelvemonth been received from your Excellency's Government, and also from the Governments of Madras and Bombay, in which are discussed the merits of several projects for railway extension in different parts of India. Among them I may refer particularly to the Despatches noted in the margin,* relative to proposed lines of railway towards or parallel to the North-West frontier,—through Rajpootana,—from the existing Bengal railways to Darjeeling or Assam,—from Hooblee to Carwar, and to new branches in connexion with the Madras or Great Southern of India Railways.

* From Government of India :—
No. 111, dated 22d December 1866.
„ 16, „ 6th February 1867.
„ 38, „ 3rd April 1867.
„ 45, „ 16th „ „
„ 94, „ 18th September 1867.
From Government of Madras :—
No. 1, dated 9th February 1867.
„ 4, „ 13th „ „
„ 6, „ 22d May 1867.
From Government of Bombay :—
No. 7, dated 27th April 1867.

2. Each of these schemes has, in consequence, engaged my attention in Council, but the fact of so many projects being brought forward simultaneously seems to show that the present is a fitting time for taking a comprehensive view of our railway policy, past and future, for reviewing what has been already done, and for endeavouring to establish principles on which we may proceed henceforward.

3. Past results may be briefly summed up, and the present responsibilities of Government briefly described, as follows. Nine guaranteed Railway Companies have opened for traffic 3,600 miles, and are engaged in the construction of about 2,000 more. The amount of capital which these Companies have been empowered to raise may be stated, in round numbers, at 83 millions, and the amount actually raised at 74 millions. The aggregate amount (inclusive of what has been already raised) required for the completion of their undertakings, either as single lines or without other doublings than those already sanctioned, may be estimated at 90 millions, which sum must, however, be raised to 100 millions at least, if additional doublings, which will certainly be required at no distant period, be taken into account. The annual net expenditure of the State in advances of guaranteed interest was, when at its highest in 1863–64, 1,669,283*l.* It has since been reduced by payments into the Government Treasury of net railway earnings, and, last year, was little more than 700,000*l.* In all probability, the increase of net earnings might prevent Government advances on account of guaranteed interest from rising above the last-mentioned sum, if no additional capital were to be guaranteed beyond what may be necessary for the completion of undertakings already sanctioned. The present debt of the several Railways to Government on this account is about twelve millions.

4. In proceeding, however, to inquire into the expediency of further extensions, one fact to be noticed is that, as the most important lines have already been selected, results as favourable as those which are in course of realization from some of these can scarcely be expected from lines hereafter to be made.

5. Nevertheless, though equal profits may not be attainable from future lines, this does not constitute an unanswerable objection to further extension. For lines which in themselves are perhaps unremunerative may be of the highest political and social, and, indirectly, even of great commercial value. Thus a line which connects important strategical points may produce an economy of military expenditure far more than sufficient to cover any loss which may arise upon the working of the line itself. Again, a line which facilitates the carriage of food in districts where harvests are uncertain may be of the highest value, though not directly remunerative. The same may be said of lines which facilitate the intercourse of remote and backward districts with the more advanced, or which enable the people to come more easily and frequently to markets, to courts of justice, and so forth, or enable magistrates to visit their districts with greater convenience. These are only a few of the many indirect advantages attending the extension of railways, which justify us in laying down the principle that direct commercial success is not to be regarded as the one single test of their value.

6. These considerations, however, strengthen the conclusion to which practical experience leads us, that railways are not likely to be made in India without the aid of Government. The capital which has hitherto been invested in them has almost entirely come from England. It has gone to make, probably, the most profitable lines; and if even for these it could not be obtained without a guarantee, it is unreasonable to suppose that it would be forthcoming without similar support for the less profitable. The motives which might possibly induce intelligent and public spirited natives to promote the construction of unremunerative lines, for the sake of improving

the general condition of the country, would have no weight with English capitalists. But such motives are precisely those which ought most to influence a Government having a due regard to the general welfare of its subjects.

7. In order, however, that Government may be prepared to take upon itself the pecuniary risks of railway extension, it becomes us to take a general survey of the whole of India, for the purpose of deciding upon the lines which are most to be desired, and of considering in what order, in what mode, and at what rate of speed they should be taken up.

8. These several points, among others connected with the general question, have accordingly been under my consideration in Council, and I propose now to place you in possession of the views which I have in consequence been led to form, and in maturing which I am desirous of having the additional assistance of your Excellency's Government.

9. It seems desirable that projects for future railways should be arranged in two separate classes, as commercial or political. It may often be difficult to distinguish clearly between the two, but this need not be attempted. It will be sufficient that some should be recognized as being recommended chiefly by commercial, and others chiefly by political, utility.

10. Of the political lines, the most important are undoubtedly those to the north-west frontier, upon which I propose to address you in a separate despatch.

11. Of the commercial lines, those should, in my opinion, be preferred which will open up the districts whose natural resources are at once largest and least developed, and which are least aided by existing lines. Competing lines ought not to be promoted, but care should be taken to scrutinize the grounds upon which any line is said to be in competition in another. As regards feeders, it is to be hoped that the several Companies will not refuse to undertake such as both they and the Government may concur in regarding as desirable. The question of doubling existing lines may properly be left to the Companies.

12. In the choice of new lines of either description, I am desirous that due weight should be given to the claims of the different presidencies. The funds which are to support them will be drawn from the whole country, and it is desirable that the whole country should participate in the benefit derived from them. In some districts, however, improved roads would answer sufficiently all the purposes of a railway, and it is needless to say that when this is the case the former should be preferred.

13. We have next to consider the best means of raising the requisite funds for the construction of such future railways as may be decided upon.

14. You have recently come to the conclusion that the guarantee system should, so far as regards irrigation works, be superseded by a system of direct Government agency. The reasons for this decision, however, are not applicable to the case of railways, as the question of possible interference with the land revenue does not here arise. At the same time, there are other considerations which ought not to be lost sight of. The main objection to guarantees in connexion with railways is that they tend to weaken the ordinary motives to efficient management and superintendence; and recent disclosures as to the state of the works on the Great Indian Peninsula line afford new proof that there is much room for apprehension on this score. I am, therefore, anxious to know whether any or what additional precautions can, in your opinion, advisably be taken to secure good workmanship under the guarantee system, which, in spite of its obvious defects in certain particulars, I am disposed to regard as, upon the whole, the one best adapted for the extension of one class of railways, viz., the commercial.

15. For the political class, I am inclined to think that direct Government agency might be preferable. It must be borne in mind that the guarantee system is not a system admitting of indefinite extension. The number of persons who are willing to invest in guaranteed railways is necessarily limited, and the market may easily be glutted with this description of securities, if they be too freely offered. The guarantee system seems to me to be properly applicable only when there is a reasonable hope that the profits of the undertaking will in a moderate time rise above the amount which the guarantee covers. If a line is to be made for Government purposes, at the risk of probable commercial loss, it will be best that the Government itself should make it, and should not weigh down the market for railway securities by the introduction of a stock which is never likely to rise to a premium.

16. With respect next to the rate of progress of future extensions, I will confine myself to observing, that as the construction of railways resolves itself into a question of charging the revenues and the credit of India, it must be considered with reference to the general financial position of the Government, and the extent of its actual or contemplated expenditure on public works. It would be inconvenient and inappropriate to name a particular capital sum as the limit of what should be invested in railway enterprise; but it might be possible to ascertain a sum which should be taken as the limit of the annual charge which should be borne on railway account, and thus to establish a system under which, in proportion as the revenues of India were relieved of the charge of old lines by their becoming self-supporting, new ones might be taken up in their place. I would leave to your Government to propose what the exact limit in question should be.

17. With respect to the order in which different lines should be taken up, I may again distinguish between political and commercial. With regard to the former, I shall state my

views in the separate despatch to which I have already alluded. With regard to the latter, I would request you, after passing in review the several applications and projects which have from time to time been brought before you, to favour me with your estimate of their comparative urgency.

I have the honour to be,
Sir,
Your most obedient, humble Servant,
(Signed) STAFFORD H. NORTHCOTE.

AN ACT to enable certain guaranteed INDIAN RAILWAY COMPANIES to raise Money on DEBENTURE STOCK.

Preamble.

WHEREAS the Railway Companies severally known as the Great Indian Peninsula Railway Company, the East Indian Railway Company, the Madras Railway Company, the Bombay, Baroda, and Central India Railway Company, the Scinde Railway Company, the Eastern Bengal Railway Company, and the Oude and Rohilcund Railway Company, Limited, were constituted and incorporated by Acts of Parliament, or by Certificate under Act of Parliament, for the purpose of constructing, maintaining, and working Railways in India; and the said Companies have, under powers vested in them by their Acts, or otherwise vested in them, entered into terminable Contracts and Arrangements with the East India Company, or with the Secretary of State in Council of India, with respect to their Undertakings, and they have in exercise of such Powers, with the Sanction of the East India Company, or the Secretary of State in Council of India, raised Capital by the Issue of Shares or Stock, and have borrowed Money for their Undertakings on the Security of Mortgages or Bonds:

And whereas it is expedient that each of the said Companies should be empowered to create, with the Sanction of the Secretary of State in Council of India, Debenture Stock in lieu of Borrowing or in Substitution for, or for the Discharge of, Mortgages or Bonds:

Be it therefore enacted by the Queen's most Excellent Majesty, by and with the Advice and Consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the Authority of the same, as follows:

Power to each Company to create and issue Debenture Stock, with the Sanction of the Secretary of State in Council of India.

1. That each of the said Companies may from Time to Time, with the Sanction of the Secretary of State in Council of India, and of Three Fifths of the Votes of its Shareholders and Stockholders entitled to vote in that Behalf at Meetings of the Company, present in Person or by Proxy at any Extraordinary Meeting convened with Notice of this Purpose, raise all or any Part of the Money which for the Time being the Company has raised or is authorized to raise on Mortgage or Bond, by the Creation and Issue at such Times, in such Amounts and Manner, on such Terms, at such Price, subject to such Conditions, and with such Rights and Privileges as the Secretary of State in Council of India shall think fit, of Stock to be called Debenture Stock, instead of and to the same Amount as the whole or any Part of the Money which may for the Time being be owing by the Company on Mortgage or Bond, or which the Company may from Time to Time have Power to raise on Mortgage or Bond, and may with such Sanction of its Shareholders and Stockholders aforesaid attach to the Stock so created such fixed and perpetual, irredeemable, redeemable, variable or other Interest at such Rate, payable half-yearly or otherwise, and commencing at once or at any future Time or Times, when and as the Debenture Stock shall be issued or otherwise, as the Secretary of State in Council of India shall think fit.

That all the following Provisions shall apply to every Case of raising Money by Debenture Stock.

2. All the Provisions following shall apply to every Case of One of the said Companies exercising the Power herein-before given for raising Money by the Creation and issue of Debenture Stock; (that is to say),

Debenture Stock to be a prior Charge.

1. The Debenture Stock, with the Interest thereon, shall be a Charge upon the Undertaking of the Company prior to all other Stock or Shares of the Company, and shall be transmissible and transferable in the same Manner and according to the same Regulations and Provisions as other Stock of the Company, and shall in all other respects have the Incidents of Personal Estate.

Interest on Debenture Stock to be a primary Charge.

2. The Interest on Debenture Stock shall have priority of Payment over all Dividends or Interest on any other Stock or Shares of the Company, and shall rank next to the Interest payable on the Mortgages or Bonds for the Time being of the Company legally granted before the Creation of such Stock, but the Holders of Debenture Stock shall not as among themselves be entitled to any Preference or Priority.

Debenture Stock to be registered.

3. The Company shall cause Entries of the Debenture Stock from Time to Time created to be made in a Register to be kept for that Purpose, wherein they shall enter the Names and Addresses of the several Persons and Corporations from Time to Time entitled to the Debenture Stock, with the respective Amounts of the Stock to which they are respectively entitled, and any Instalments by which the Price or Subscription for any Debenture Stock may be made payable shall be recoverable as Calls are recoverable under "The Companies Clauses Consolidation Act, 1845."

Company to declare Certificate to Holders of Debenture Stock.

4. The Company shall deliver to every Holder of Debenture Stock a Certificate stating the Amount of Debenture held by him, and all Regulations or Provisions for the Time being applicable to Certificates of Shares in the Capital of the Company shall apply mutatis mutandis to Certificates of Debenture Stock.

5. Nothing herein contained shall in any way affect any Mortgage or Bond at any Time legally granted by the Company before the Creation of such Stock, or any Power of the Company to raise Money on Mortgage or Bond so far as such Power is not by this Act expressly extinguished; but the Holders of all such Mortgages and Bonds shall, during the Continuance thereof, respectively be entitled to the same Priorities, Rights, and Privileges in all respects as they would have been entitled to if this Act had not been passed. Mortgagees not to be affected by this Act.

6. The Debenture Stock shall not entitle the Holders thereof to be present or vote at any Meeting of the Company, or confer any Qualification with reference to the Government thereof, but shall in all respects, not otherwise by this Act provided for, be considered as entitling the Holders to the Rights and Powers of Mortgagees of the Undertaking other than the Right to require Repayment of the Principal Money paid up in respect of the Debenture Stock: Provided always, that if on the Issue of any such Stock the Company shall have agreed to repay the Principal Money at a fixed Time, the Holders thereof shall be entitled to be repaid their Principal Money at such fixed Time. Holders of Debenture Stock not to vote.

7. The Money raised by Debenture Stock shall be applied exclusively either in paying off Money due by the Company on Mortgage or Bond, or else for the Purposes to which the same Money would be applicable if it were raised on Mortgage or Bond instead of on Debenture Stock: Provided always, that the Receipt, Disposal, and Application of all Monies raised by the Debenture Stock shall be at all Times and in all respects subject to the Supervision, Direction, and Control of the Secretary of State in Council of India. Application of Money raised.

8. Separate and distinct Accounts shall be kept by the Company, showing how much Money has been received for or on account of Debenture Stock, and how much Money borrowed or owing on Mortgage or Bond for which they have Power so to borrow has been paid off by Debenture Stock or raised thereby instead of being borrowed on Mortgage or Bond. Separate Accounts to be kept of Debenture Stock.

9. The Powers of borrowing and reborrowing by the Company shall, to the Extent of the nominal Amount of the Debenture Stock for the Time being issued, be extinguished. Borrowing Powers extinguished.

East Indian Railway.

Provident Fund.

Rules and Regulations.

1. That the Fund be independent of the Company, but that the management be confided to a Committee of five of its principal Officers, consisting of the Chairman of the Board of Agency, and the Chief Auditor for the time being, with three others, to be selected by the Members of the Fund.

2. That the benefits of the Fund be open to all persons in the service of the Company on the 31st December 1867, in receipt of a monthly pay of Rs. 30 and upwards, who have attained the age of 21 years, or upon their attaining that age; but that it be *compulsory* on persons entering the service after the current year to join the Fund as soon as their pay and age qualify them to become Members.

3. That the Members of the Fund be divided into two Classes, namely, Class "A," consisting of all European Servants of the Company, and Class "B," comprising all Servants of the Company, not Europeans.

4. That from the 1st January 1868 a deduction of 5 per cent. shall be made from the monthly pay of Servants of Class "A," and 2½ per cent. from the monthly pay of those of Class "B," the total realized from time to time being paid over to the Committee for investment.

5. That for the period of Sick Leave or Furlough, the subscriptions shall be assessed on the amount of pay to which the absentees are entitled on return to duty.

6. (1) That the Company shall contribute annually 1 per cent. on the net earnings of the Main Line, after 6 per cent. has been appropriated to the Company and the Government in the terms of their Contract, on the Capital of that Line, together with 1 per cent. on the 6 per cent. so appropriated, so far as the surplus will admit of the said contributions.

(2) That the Company shall contribute annually 1 per cent. on the net earnings of the Jubbulpore Line, after 6 per cent. has been appropriated to the Company and the Government, in the terms of their Contract, on the Capital of that Line, together with 1 per cent. on the 6 per cent. so appropriated, so far as the surplus will admit of the said contributions.

7. That all amounts received by the Committee, from whatever sources, shall be invested in Indian Government Securities, or in the Railway Stock.

8. That as soon after the 31st December of each year as possible, the total investments made from the subscriptions of that year shall be divided (by book entry) between the Members of the

Fund, according to the ratio of subscription of each. In like manner, investments made from the amounts received for interest on the total Stock held by the Fund shall be divided rateably, according to the amount of Stock standing at the credit of each Subscriber.

9. That on the total contributions of a Member reaching a sum of 80*l.* or upwards, and such Member being desirous to bring his wife or family out from England, an equivalent advance may be made to him on the security of the said contributions, to enable him to do so.

10. That on the total contributions of a Member reaching in amount the guarantee security required for its fidelity, it may be assigned to the Company, by way of security, in satisfaction thereof.

11. That no amount shall be claimable until the retirement from service or the decease of a Subscriber. That in the former case the amount of securities, or, at the option of the Committee, its then market value, standing at the credit of the Subscriber at the close of the year preceding his resignation, shall be transferred to him, either in Calcutta or London (at the option of the Committee), his subscriptions for the period subsequent to the close of that year being returned to him in full. A similar plan to be adopted in the case of a person dying whilst in the service; the amount at the credit of the deceased's estate being transferred to his Executors or Administrators.

12. Persons dismissed the service for misconduct shall receive back the amount of their subscriptions only,—less any amount claimable by the Committee on account of guarantee security, or loan,—the balance at their credit, after payment of the above, becoming the property of the Fund.

The Great Indian Peninsula Railway.

Provident Fund.

Rules and Regulations.

1. The Fund shall be managed, as part of the Company's business, by the Board of Directors of the Company, whose decision shall be final and binding upon all the Members of the Fund; but for its more convenient administration a Committee, in the character of Agents of the Board, shall be appointed, consisting of the following five Officers of the Company in India for the time being, viz., the Company's Agent, the General Traffic Manager, the Chief Resident Engineer, the Locomotive Superintendent, and the Storekeeper, three of whom shall be a quorum. The Committee shall act under the instructions, and their proceedings be subject to confirmation by the Board in all matters not previously distinctly delegated to them, and all such acts of the Committee shall be binding on the Members unless the Board shall otherwise determine.

2. The benefit of the Fund shall be open to all persons in the service of the Company in India on the 30th June 1868 who shall be in receipt of a monthly pay of Rs. 30 or upwards, and have attained the age of 21 years, or upon their attaining that age; but it shall be *compulsory* on persons entering the service after that date to join the Fund on entering, or as soon as their pay and age qualify them to become Members.

3. The Members of the Fund shall be divided into two Classes; namely, Class "A," consisting of European Servants of the Company, and Class "B," comprising Servants of the Company, not Europeans.

4. From the 1st July 1868 a deduction of 5 per cent. shall be made from the monthly pay of each Member of Class "A," and 2½ per cent. from the monthly pay of each Member of Class "B," the total amount deducted from time to time being paid over to the Committee for investment in the names of the Trustees mentioned in Rule 7.

5. For the period of Sick Leave or Furlough, the subscriptions shall be assessed on the amount of pay to which the Member is entitled on return to duty.

6. Whenever the net earnings of the Company of any half-year exceed six per cent. per annum upon the paid-up capital, a proportionate part of one per cent. of such net earnings will be contributed to the Fund, so far as the surplus will admit of the said contribution. This proportionate part will bear to the one per cent. the same relation as the salaries of the Members of the Fund do to those of all the Servants of the Company.

7. All amounts received by the Committee, from whatever sources, after deducting payments and the expenses of managing the Fund, shall be from time to time invested in Indian Government Securities, or in the Stock of the Company, in the names of the Company's Agent and of the General Traffic Manager in India, as Trustees of the Fund.

8. As soon after the 31st December of each year as possible, the total investments made from the subscriptions of that year shall be divided (by book entry) between the Members of the Fund, according to the ratio of subscription of each. In like manner, investments made from other

amounts received and from interest on the total Stock held by the Fund, shall be divided rateably according to the amount of Stock standing at the credit of each Member.

9. On the total subscriptions and share of investments of a Member reaching a sum of 80*l.* or upwards, and such Member being desirous to bring his wife or family out from England, an equivalent advance may be made to him on the security thereof, to enable him to do so.

10. On the total subscriptions and share of investments of a Member reaching in amount the guarantee security required for his fidelity, the same may be assigned to the Company, by way of security, in satisfaction thereof.

11. Except under Rules 9 and 10, no charge shall be made on a Member's subscriptions and share of investments. If a Member retires from the service, the amount of his share of investments standing at his credit on the 31st day of December preceding his retirement, or, at the option of the Board, the market value thereof calculated at the public price of the same day, shall, at the discretion of the Board, either (1) be paid to him in Bombay, or (2) be paid to him in London, or (3) be invested in the purchase of a life annuity for him, or, if he wishes it, for his wife, or a member of his family approved by the Board, and his subscriptions for the period subsequent to such preceding 31st day of December will be returned to him in full. If he dies in the service of the Company the Board may, at their discretion, either (1) pay the amount standing to his credit as above, and his subsequent subscription to his widow, or (2) invest the same in the purchase of a life annuity for his widow, or a member of his family approved by the Board, or (3) they may pay the same to his executors or administrators. Any payment or investment authorized by this rule shall be a discharge to the Fund from the Member's share and interest in the Fund.

12. A Member dismissed the service for misconduct will receive back the amount of his subscriptions alone (without interest), less any amount claimable by the Company, on account of guarantee security, or loan, or on account of money due to the Company by the person dismissed, or lost to them by his misconduct, the balance at his credit, after payment of the above, becoming the property of the Fund.

13. Any loss to the Fund, from any cause whatever, shall be borne by the Fund.

14. The accounts of the Fund, as made up from time to time, shall be audited, and their accuracy certified to by the Chief Accountant of the Company.

15. The Board, upon the proposition of the Committee, may make any new Rules as occasion shall require.

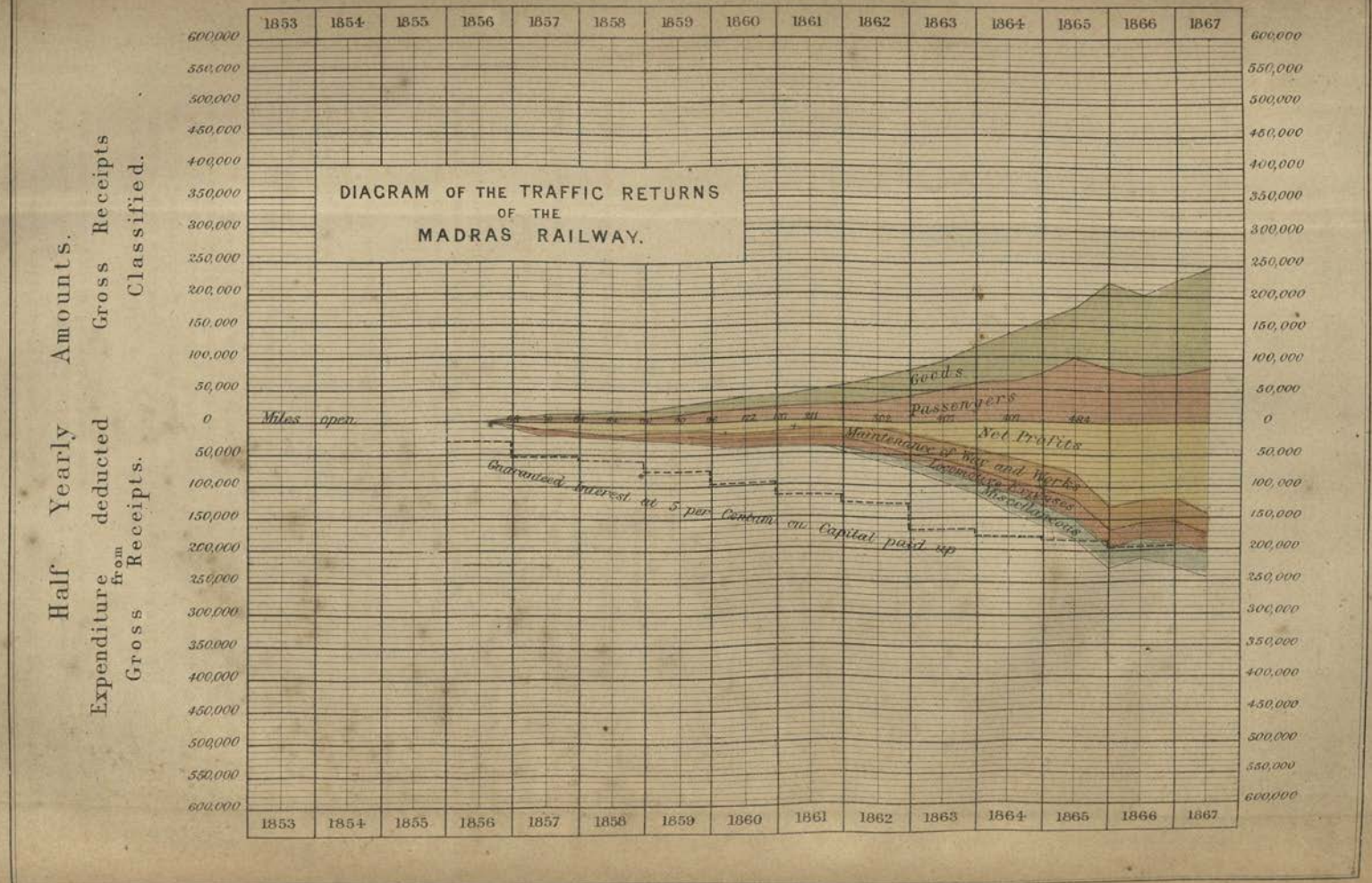
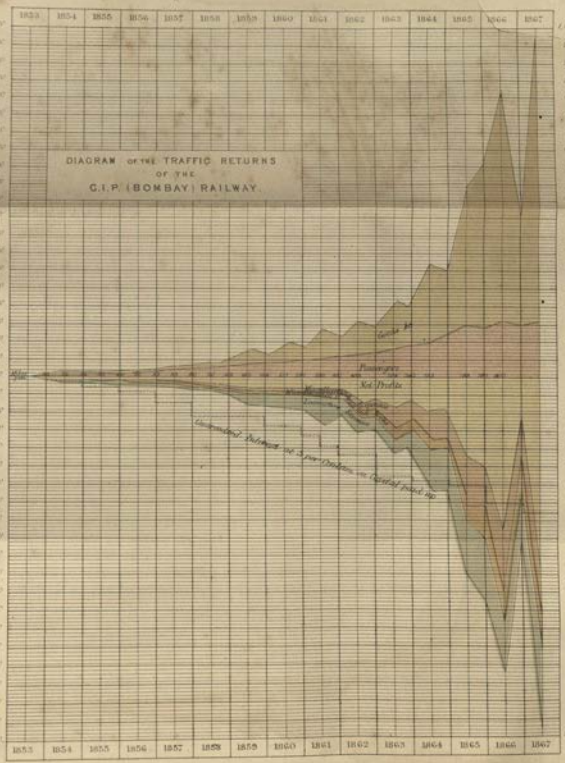
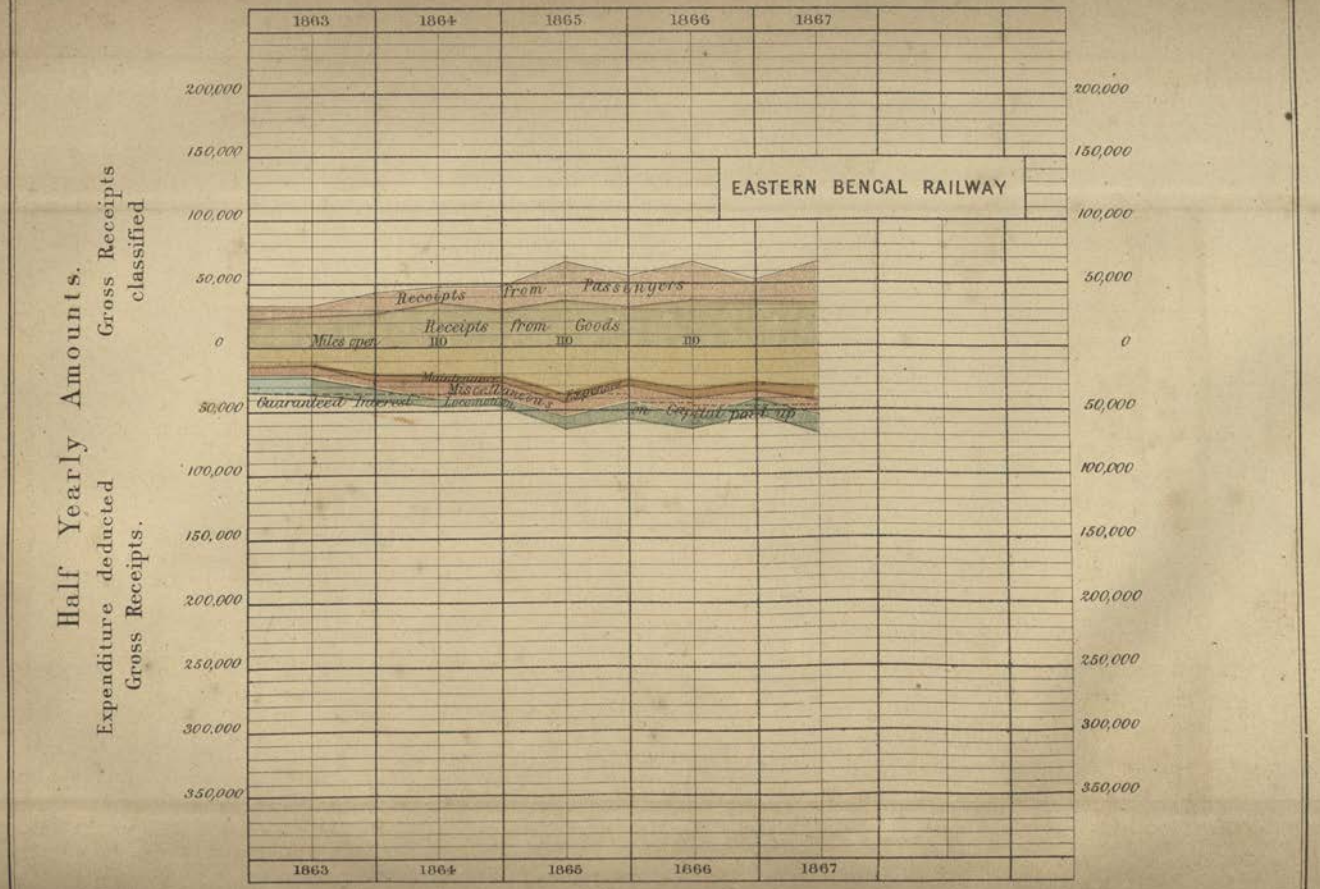


DIAGRAM OF THE TRAFFIC RETURNS
OF THE
MADRAS RAILWAY.
Half Yearly Amounts.
Expenditure deducted from Gross Receipts.
Gross Receipts Classified.
1853
1854
1855
1856
1857
1858
1859
1860
1861
1862
1863
1864
1865
1866
1867
600,000
550,000
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
Miles open.
Goods
Passengers
Net Profits
Maintenance of Way and Works
Locomotive Expenses
Miscellaneous
Guaranteed Interest at 5 per Centum on Capital paid up



Prepared by Maj. Genl. W.E. Baker, R.E.



Prepared by Majr Genl W.E. Baker R.E.

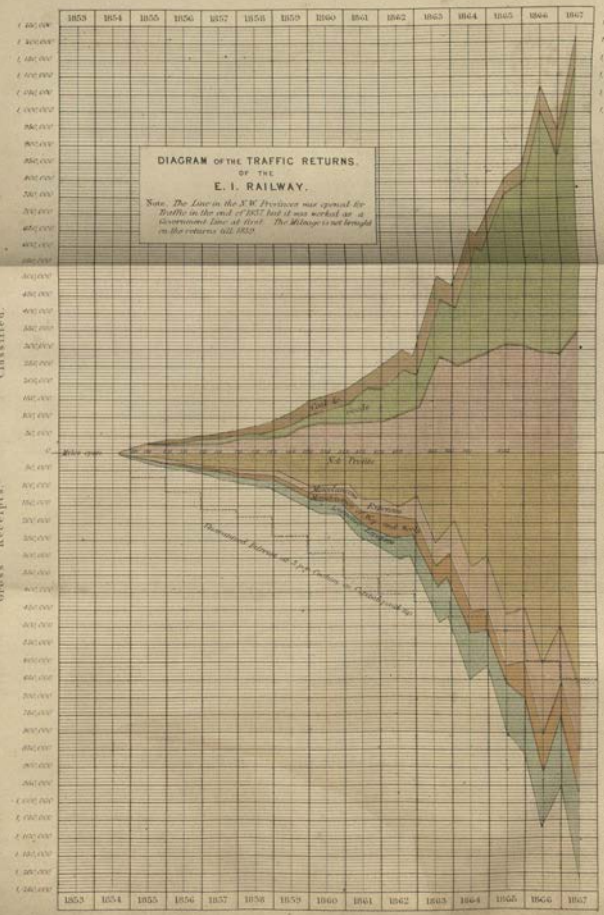


DIAGRAM OF THE TRAFFIC RETURNS. OF THE E. I. RAILWAY.
Note. The Line in the N.W. Provinces was opened for Traffic in the end of 1857 but it was worked as a Government Line at first. The Mileage is not brought in the returns till 1859.
1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867
Half Yearly Amounts.
Expenditure deducted
Gross Receipts.
Gross Receipts Classified.
Prepared by Majr Genl W. F. Baker, R.E.

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Revenue and traffic (tables)	38–50	18–23
Train mileage receipts and expenses	46, 47	22
Miscellaneous	51–53	23
Guaranteed interest (tables)	54–56	23, 24
East Indian Railway	57–61	24, 25
Great Indian Peninsula Railway	62–65	25
Madras Railway	66–71	25, 26
Bombay and Baroda Railway	72–75	26
Scinde Railway	76, 77	26
The Indus Flotilla	78	26
Punjab Railway	79	26
Delhi Railway	80–82	26
Eastern Bengal Railway	83–86	27
Great Southern of India Railway	87–89	27
Oude and Rohilcund Railway	90–93	27
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APPENDIX.		
Lists of stations on the various lines, with distances	—	29–37

MAP OF
AFFGHANISTAN
Peshawar
Kohaut
Attock
Rawul Pindee
Leh or Ladak
Ballary
Cuddapah
Nellore
Herrior
Serah
Bangalore
Tripatoor
Chinapatam
Tripelly
Arcot
MADRAS
Vellor
Seringapatam
Mysore
Indranum
Pondicherry
Salem
Porto Novo
Calicut
Beypoor
Trichinopoly
Tranquebar
Negapatam
Dindigul
Cochin
Madurai
Rammad
Trivandrum
Nagercoil
Cape Comorin
G of Manaar
Manaar
Trincomalee
CEYLON
Kandy
Colombo
Pt de Galle
Railways completed thus
Do in progress thus
Do projected thus
Steam boats in connection with Railways thus
Coal Districts thus
Cotton Do thus
Scale

REPORT.

To His Grace the DUKE OF ARGYLL, K.T., Secretary of State for India.

MY LORD DUKE, 28th June 1869.

I HAVE the honour to lay before your Grace my tenth annual report on the subject of Railways in India.

General progress.

2. As the system of trunk lines which has been sanctioned approaches completion, the yearly additional mileage becomes smaller. I have accordingly this year to report but a comparatively small increase of the length of open line. Of the 5,925 miles which comprise the present system, 4,096 have been completed, and of these 174 were opened during the past year. Twenty-one miles were added to the North-eastern line of the Great Indian Peninsula Railway in February. On the North-west line of the Madras Railway 32 miles were opened for traffic on the 1st September; 120 miles of the Delhi line, which is thus extended to Umballah, were opened by the late Viceroy, Lord Lawrence, in November; and 1½ miles were added to the Bombay end of the Bombay and Baroda Railway in September.

3. The following table furnishes particulars of the position of each undertaking with respect to its length of open and unopen line.

Railway.	Total Length as at present sanctioned (given approximately).	Length opened during 1868.	Total Length now opened.	Length remaining to be finished, and probable Time of Completion.			
				1869.	1870.	1871 and subsequently.	Total.
East Indian - { Main line - -	1,276¼	—	1,131¼	—	145	—	145
{ Jubbulpore line -	225	—	225	—	—	—	—
Great Indian Peninsula - - -	1,266¾	21½	873¾	—	198	200	393
Madras - { S.-W. line - - -	528	—	492	—	—	36	36
{ N.-W. line - - -	341	32	185	30	—	126	156
Bombay, Baroda, and Central India -	312½	1½	307½	—	5	—	5
Scinde - - - - -	109	—	109	—	—	—	—
Punjab - - - - - -	246	—	246	—	—	—	—
Delhi - - - - - -	320	120	174	70	76	—	146
Eastern Bengal - - - -	159	—	114	—	45	—	45
Great Southern - - - -	168	—	168	—	—	—	—
Oude and Rohilcund - - -	672	—	42	—	36	594	630
Calcutta and Mutlah - - -	29	—	29	—	—	—	—
Lahore and Peshawur - - -	273	—	—	—	—	273	273
Total - - - - - -	5,925½	174¾	4,096½	100	509	1,229	1,829

4. No very important addition is likely to be made to the extent of open railway during the ensuing year. A further section of the Delhi line will probably be finished, as well as another portion of the north-west branch of the Madras Railway. But the completion of the chord line of the East Indian Railway and the last section of the Delhi line, which will have the effect of bringing Calcutta into direct and uninterrupted communication with Lahore by a railway 1,500 miles in length, must not be expected until the autumn of 1870. About the same time the railway between Bombay and Calcutta will probably be completed. The delay in opening this important line has been caused by the backward state of the works on the Great Indian Peninsula Railway. Fresh cases of faulty construction in some of the bridges on this line, which help to retard its completion, have, I regret to say, been reported. Great hopes, however, are entertained that during the course of next year all the necessary repairs will have been effected and the line opened to Jubbulpore, where it joins the East Indian Railway.

5. Most of the bridges which have failed, and which were originally made with arches of brick or stone, are now being reconstructed with iron girders. The substitution of iron for masonry has also been much resorted to on other lines where bridges have been injured. It is somewhat remarkable that while the inundations and floods peculiar to the country were particularly alluded to, when railways were first commenced, as amongst the difficulties that would have to be overcome, the want of sufficient waterway has been a fruitful source of danger and expense. The experience which we have gained ought not to be lost in designing future lines. This, however, was not the cause of the disastrous failures in the Great Indian Peninsula Railway. They were produced by a combination of errors. The first and foremost was the imperfect manner in which the designs and specifications were prepared; and this was followed by the use of inferior materials, and by a lax system of supervision while construction was going on.

New lines.

6. Although the subject of railway extension has, during the past year, much engaged the attention both of the Home Government and of the Government of India, the only new line which has actually been decided on is the branch of 36 miles from the present Madras Railway to the Neilgherry Hills. This however can hardly be called a new line, as it was included in the original contract with the Madras Railway Company, its execution being postponed until the accommodation which it is intended to provide was more urgently required than appeared to be the case at that time. The company have now undertaken to execute it, at the request of Government. The easy access which it will give to the bracing climate and beautiful scenery of the Neilgherry Hills will be a great boon to Europeans and their families.

Future extensions.

7. It will be recollected that the line joining Lahore with the north-west extremity of the empire at Peshawur had already been determined on. Measures are now being taken for staking it out and commencing constructive operations. With regard to schemes for future railway extension, the despatch of the Secretary of State, appended to my last annual report, in which the Government of India was invited to report to Her Majesty's Government the lines which are most called for, and the order in which they should be constructed, was followed by other despatches on the same subject. These have recently elicited from the Government a comprehensive scheme for the extension of railway communication throughout India, as well as an exposition of their views upon the agency by which it should be carried out. With regard to the latter question, the present Government agrees with the late Viceroy, Lord Lawrence, who, before his departure, recorded a minute on the subject, that the future lines should "so far as "is consistent with actual and implied engagement with existing companies be "carried out by the Government itself." The Government is "very far from "questioning the great value of the work actually performed by companies in the "prosecution of railways in a period of undoubted difficulty." But," they add, "the "whole conditions of the problem have since changed, and in this as in numerous "other matters of great public importance, modified methods of action are neces-"sary to meet the altered circumstances of the time."

8. This recommendation is based upon the belief that expenditure will be kept more under control than when incurred through the agency of companies; that the cost of future lines will, in consequence, be much diminished; and that, if at one time India was wanting in experience, she now possesses all the knowledge requisite in dealing with the administration and construction of railways. The Government also thinks that a railway through a native state, where delicate negociations may be necessary, is much better in the hands of Government than of a company. It is not proposed to abandon altogether the agency of companies for future lines; but the notion of allotting commercial and remunerative lines to companies, and of throwing upon Government the political and non-paying lines, did not meet with a favourable reception from the Government of India. Your Grace is aware that before these despatches were received the question of agency had engaged your attention, and that you had come to very much the same conclusions regarding it.

9. As respects the lines which are to be undertaken, Lord Lawrence's intention was to propose, and Lord Mayo entirely supports the proposal,—"that the construc-"tion of such a system of railways should be commenced as appeared likely to give "a tolerably complete network of main lines, traversing all parts of India, in which "considerations of policy, or the probable requirements of the trade and internal "convenience of the country, indicated the utility of opening such lines, and give "sufficient grounds to anticipate the eventual growth of a traffic which would pay

" the interest on the cost of construction." The rate of progress will depend upon the amount of capital upon which the Government can afford to pay interest out of the revenues. It is computed that 10,000 miles, in addition to the 5,000 which are either open or in course of construction, would provide necessary communication through all the chief provinces: that by an annual expenditure of 3,750,000*l.*, 300 miles could be opened every year, supposing the cost to be 12,000*l.* per mile; and that thus in about 30 years all the requirements of India would be met, "without " either extraordinary taxation, inconvenient pressure on the public revenues, or " objectionable increase of the liabilities of the state."

10. The new lines proposed are:—

1. The Indus Valley, to connect the present Scinde Railway at Kotree with the Punjab railway at Moultan.
2. Rajpootana lines, to connect Agra and Delhi with Bombay, by way of Ajmeer and Neemuch, also by way of Indore.
3. Branches from the Bombay and Baroda Railway to Veerungaum and Wudwan and into the province of Kattywar.
4. A West Coast Railway, to commence at the port of Carwar and to proceed to Hooblee and then on to the present Madras Railway at Bellary, and north to the Great Indian Peninsula Railway at or near Deeksul.
5. A junction line to connect the North-east and South-east lines of the Great Indian Peninsula Railway.
6. A line from Kulburga, on the Great Indian Peninsula Railway, to Hyderabad.
7. Branches to the Madras Railway.
8. Extension of the Great Southern of India Railway to Tuticorin.
9. East Coast lines, between Calcutta and Madras, viâ Midnapore, Cuttack, and the port of Coconada, and south of Madras towards Pondicherry.
10. A system of lines for Mysore.
11. A line from the Eastern Bengal Railway at Kooshtea to Darjeeling.
12. A line from Rangoon to Prome.

11. It will be observed that, notwithstanding the extensive character of the scheme, no rival or competitive projects are proposed, and that those lines which are now open and those which are about to be undertaken have large fields of their own to traverse without fear of trenching on each other's territory.

12. In a recent despatch your Grace has expressed general concurrence in the views entertained by the Government of India, and while raising doubts as to the necessity for some of the proposed lines and suggesting the postponement of others, you have authorised the immediate commencement of operations on the Indus Valley line, on the Rajpootana line, on the line from Kulburga to Hyderabad, and on that from Carwar to Hooblee, committing the execution of the same to the Government. Your Grace has also entered into negotiations with the Bombay and Baroda Railway Company for the construction of a branch from their line at Ahmedabad to Veerungaum and Wudwan, with the Great Southern for the continuation of their railway to Tuticorin, and with the Indian Tramway Company for the extension of their line to Cuddalore.

Government agency.

13. It is hardly necessary to remark that with the employment of direct government agency in the construction of railways in India we commence a new epoch in their history. Valuable experience has been gained, through the operations of the last 20 years, by officers of the Indian service, and Government is of course just as well able as companies to command the skill, and better able to command the money, requisite to carry on these important public works. But great care and circumspection will be required in organising an efficient system of administration. I will not here enter into a consideration of what that plan should be. I will only venture to refer to one or two conditions which appear to be essential to the success of the new policy. The funds for a railway, having been sanctioned and provided, should, I submit, be administered by a department, which, while accountable to the Supreme Government for its proceedings, should be distinct from that charged with the other financial concerns of the country; the accounts of each undertaking should be kept separate; and the execution of the works as well as the management of the affairs of each should be conducted, as far as possible, on the principle of individual responsibility.

SUPPLIES FROM THIS COUNTRY.

14. The shipping operations during the past year have been less than the previous year by upwards of 115,000 tons, and the value of the goods supplied from this country have been 1,849,554*l.*, as compared with 3,052,652*l.* during 1867.

15. The following table furnishes the particulars of each railway :—

SHIPPING OPERATIONS DURING THE YEAR 1868.

Railway.	Number of Ships employed.	Amount of Goods shipped.	Value of Goods shipped.	Amount paid for Freight and Insurance.
		Tons.	£	£
East Indian	68	40,888	464,481	68,342
Great Indian Peninsula	100	85,615	847,700	194,018
Madras	45	20.738	156,169	45,118
Bombay, Baroda, and Central India	26	9,382	94,162	20,360
Scinde	57	6,444	19,070	16,104
Punjab		176	2,898	1,092
Indus Flotilla		84	1,630	272
Delhi		8,108	133,600	21,768
Eastern Bengal	56	12,976	95,484	18,912
Great Southern of India	4	4,247	33,100	8,940
Oude and Rohilcund	8	200	1,260	127
Total	364	188,858	1,849,554	395,053

16. Three ships were wrecked during the year, one with goods of the value of 8,600*l.* belonging to the Great Indian Peninsula Railway ; one with a cargo of coal belonging to the Scinde Railway Company valued at 2,420*l.*, and one in which the Eastern Bengal Company had shipped 400*l.* worth of goods. All were fully insured.

Shipments since commencement of railway works in India.

17. The shipments which have been made from this country to India for the purposes of the railways since their commencement will be seen in the subjoined account :—

Year.	No. of Ships.	Ships lost.	Amount of Goods shipped.	Value of Goods shipped.
			Tons.	£
Up to end of 1860	2,605	39	2,094,686	10,431,976
In 1861	407	—	182,621	1,669,443
„ 1862	280	1	138,013	1,487,582
„ 1863	279	2	166,840	1,285,464
„ 1864	233	—	102,318	1,018,164
„ 1865	442	2	199,157	1,729,543
„ 1866	581	7	312,227	2,527,757
„ 1867	512	5	333,329	3,052,652
„ 1868	364	3	188,858	1,849,554
Total	5,703	59	3,718,049	25,052,135

Locomotive and rolling stock.

18. The following table shews the number of locomotive engines, passenger carriages, and goods waggons added to the former stock of each company during the past year, and the number in use on the 1st January 1869. The whole number of locomotives added was 49, and the rolling stock has been increased by 142 passenger carriages and 1,743 trucks and waggons.

19. The average number of engines to the mile will thus appear to be 4·46. On the several lines the proportion is as follows :—

Railway.	Number of miles to each Locomotive.	Number of Vehicles to each Locomotive.
East Indian	3·13	16·81
Great Indian Peninsula	3·70	28·27
Madras	6·38	30·72
Bombay and Baroda	4·87	48·49
Scinde	4·36	29·40
Punjab	6·65	20·
Eastern Bengal	3·69	15·41
Great Southern of India	11·20	—
Oude and Rohilkund	10·50	27·25

LOCOMOTIVE and ROLLING STOCK on the 31st December 1868.

Railway.	Miles open on 1st May 1869.	Locomotives.			Passenger Carriages.		Trucks and Waggons.		Total Number of Vehicles on 31st December 1868.
		Former Number.	Added in 1868.	Total Number, 31st Dec. 1868.	Former Number.	Added in 1868.	Former Number.	Added in 1868.	
East Indian - -	1,356	425	11	436	850	50	6,202	228	7,330
Great Indian Peninsula	874	209	27	236	958	33	4,583	1,119	6,693
Madras - -	677	106	—	106	262	15	2,680	300	3,257
Bombay, Baroda, and Central India -	307	63	—	63	181	—	2,874	—	3,055
Scinde - -	109	25	—	25	64	—	671	—	735
Punjab - -	246	38	—	38	116	—	669	—	785
Delhi - - -	174	6	—	6	107	—	254	—	361
Eastern Bengal -	114	32	11	43	92	8	509	54	663
Great Southern of India	168	15	—	15	33	8	205	10	256
Calcutta and South-eastern - -	29	12	—	12	56	—	478	—	534
Oude and Rohilkund -	42	4	—	4	12	28	37	32	109
Total - -	4,096	935	49	984	2,781	142	19,092	1,743	23,778

20. The following table relates to the number of stock and debenture holders in the various companies :— Proprietors of stock and debentures.

Railway.	Number of Shareholders on 31st December 1868.						Number of Debenture Holders.	Total Number of Proprietors on the 31st December 1868.
	Registered in England.			In India.				
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.		
East Indian - - -	5,415	7,555	12,970	200	138	338	3,640	16,948
Great Indian Peninsula -	4,148	5,835	9,983	66	105	171	1,823*	11,977
Madras - - -	2,442	3,620	6,062	—	—	—	952	7,014
Bombay, Baroda, and Central India - -	2,070	3,171	5,241	14	69	83	1,030	6,354
Scinde - - -	777	845	1,622	16	3	19	156	1,797
Punjab - - -	697	1,005	1,602	17	2	19	63	1,766
Delhi - - -	1,337	1,977	3,314	40	6	46	—	3,360
Indus Flotilla - -	206	84	290	—	—	—	120	410
Eastern Bengal - -	595	862	1,457	19	21	40	463	1,960
Great Southern of India	341	493	834	2	7	9	123	966
Oude and Rohilkund -	441	381	822	13	20	33	74	929
Total - -	18,469	25,828	44,297	387	371	758	8,444	53,499

* Including 80 holders of debenture stock.

Stockholders.

21. The total number of individuals personally interested in the Indian railways thus amounts to 53,499, being an increase of 3,809 over the previous year. Only 371, or less than 1 per cent. of the whole, are natives of the country so largely benefited. It may be almost said, therefore, that the funds for these great works are supplied exclusively from England. There are, however, amongst the shareholders many persons whose fortunes and incomes are derived from India, either as public servants, retired officers, or through commerce.

PERSONS EMPLOYED ON THE LINES.

Officers and servants.

22. The following returns relating to the officers and servants employed on the railways is incomplete, in consequence of the non-receipt of the necessary information from Bombay regarding the lines in that presidency.

23. Compared with last year the number of Europeans employed is about the same. The natives are 1,200 in excess. The casualties from death amongst the Europeans and East Indians were at the rate of 1·31 per cent.

24. The shifting character of the European staff is exhibited by the fact that in 1868, out of 1,732 men, 613 left the service of the East Indian Railway from various causes, including dismissals, resignations, deaths, &c.

25. In connexion with this subject I may mention that the nucleus of a very important military force has been formed lately by the creation of a corps of volunteers composed of the East Indian Railway officers and men. Encouragement in the shape of a capitation allowance, and of the grant of arms will be given by Government. It is calculated that upwards of 2,000 will join this force from the East Indian Railway alone. If the employés on the other lines follow the example we shall have an organised force of from 7,000 to 8,000 men upon whom the Government could depend for aid in case of emergency. The railways would then more than ever deserve the name of important strategical works.

PERSONS EMPLOYED ON LINES

on the 1st October 1868.

Railway.	Agent's Department, including Medical and Barrack Departments.			Account Department.			Audit Department.			Printing and Stationery Department.			Stores Department.			Traffic Department, including Steam Ferry.			Engineer's Department.			Carriage and Waggon Departments.			Locomotive Department.			Telegraph Department.			Grand Total.			No. of Miles open.	No. of Stations.
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.		
East Indian -	35	158	193	19	376	395	32	388	420	9	317	326	75	1,255	1,330	471	4,181	4,652	121	6,629	6,750	134	4,027	4,161	771	2,203	2,974	65	856	921	1,732	20,390	22,122	1,356	138
Madras -	15	29	44	4	86	90	10	90	100	—	—	—	13	102	115	122	1,290	1,412	66	3,898	3,964	—	—	—	384	1,767	2,111	41	143	184	615	7,405	8,020	677½	68
Punjab - -} Delhi - -}	17	13	30	19	30	49	15	8	23	1	14	15	10	38	48	64	652	716	50	130	180	8	15	23	73	53	126	36	70	106	293	1,023	1,316	299	27
Eastern Bengal	8	52	60	3	64	67	1	19	20	—	6	6	5	49	54	64	1,036	1,100	43	2,260	2,303	5	144	149	47	281	328	8	83	91	184	3,999	4,183	114½	24
Great Southern of India.	18	73	91	—	—	—	—	—	—	—	—	—	—	—	—	13	223	236	5	272	277	—	—	—	45	138	183	—	—	—	81	706	787	163	22
Calcutta and South-Eastern.	4	—	4	1	5	6	—	1	1	—	—	—	1	12	13	4	71	75	5	163	168	—	6	6	5	26	31	—	11	11	20	295	315	29	8
Oude and Rohilkund.	14	52	66	2	13	15	3	38	41	4	17	21	1	15	16	10	158	168	3	69	72	—	—	—	10	52	62	2	18	20	49	432	481	42	5
Total -	111	377	488	48	574	622	61	544	605	14	354	368	105	1,471	1,576	748	7,611	8,359	296	13,421	13,719	147	4,192	4,339	1,295	4,520	5,815	147	1,186	1,333	2,974	34,250	37,224	2,685½	285

CASUALTIES UP TO THE 30TH JUNE 1868.

Railway.	General.		Traffic Department.		Locomotive and Carriage Department.		Engineer's Department.		Electric Telegraph Department.		Store Department.		Total Casualties of all kinds.		Total Casualties by Deaths.		Length in Miles.	
	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Open.	Under construction.
East Indian	—	1	86	30	224	102	58	9	4	8	1	6	373	156	16	—	1,356	145
Great Indian Peninsula	2	—	39	14	75	4	18	3	1	—	5	1	140	22	17	1	869	404
Madras	—	2	2	6	18	9	5	3	—	—	—	1	25	21	6	1	645	177
Bombay, Baroda, and Central India	—	—	7	15	75	38	3	1	—	—	—	2	25	56	6	1	308	—
Scinde	—	—	—	—	9	1	2	—	—	—	—	10	11	11	2	1	109	—
Indus Steam Flotilla	7	—	—	—	—	—	9	—	—	—	—	—	16	—	2	—	—	—
Punjab and Delhi	4	—	11	3	14	—	3	—	—	—	3	—	35	3	4	—	299	250
Eastern Bengal	2	1	6	1	15	5	9	—	—	1	—	—	32	8	4	1	112	45
Great Southern of India	—	3	—	1	2	3	1	3	—	—	—	—	3	10	1	4	168	—
Calcutta and South-Eastern	—	—	—	1	2	—	—	—	—	—	—	—	2	1	—	—	29	—
Oude and Rohilkund	2	3	1	—	2	—	3	1	1	3	—	—	9	7	1	—	42	630
Total	17	10	152	71	376	162	111	20	6	12	9	20	671	295	59	9	3,949	1,648

ACCIDENTS.

Accidents.

26. It will be seen by the following statements, which have been prepared in India, that during the year 1868 the mean length of line open was 3,958 miles, that the total number of train miles run was 11,431,656, and that the total number of accidents to trains was 259, or one per 44,137 train miles. The number of persons killed was 192, of whom 25 were passengers, making a mortality of about 1·50 per million; but nine out of the 25, or more than one third of them, lost their lives from their own indiscretion or want of caution, so that the average risk is better expressed by one per million. Fourteen of the remaining 16 were killed on one line at the same time. A train on the Eastern Bengal Railway ran into another train which was waiting in a station siding. The other persons killed consisted of 110 servants of the companies and 57 trespassers. Of the 274 who were injured but not killed, 64 were passengers, 189 servants, and 21 trespassers.

27. Since the close of the year under review an accident of an alarming character has occurred on the Great Indian Peninsula Railway. It happened to a train on the Bhore Ghât incline on the 26th January. While proceeding down the incline, all control over the train being lost, it flew into the reversing station at the bottom of the hill, ran over the embankment, and killed 18 native passengers. According to the first accounts received, the cause of the accident was attributed to the extraordinary slipperiness of the rails in consequence of a heavy dew; but considering that the line has been subject to similar influences for the last 10 years, it appeared impossible that this could be the sole and real cause of the catastrophe. If it had been, it would have shaken confidence in the means employed for working the traffic up and down the ghâts. A special investigation into the matter was however made by a commission appointed by the Government, and the conclusion to which they have come is, that the break power had not been judiciously applied on the occasion, and "that the proximate cause of the accident was want of proper caution "on the part of those in charge of the train." They also express their conviction that, with proper management, the command of the trains on the ghâts can never be lost, and they do not see the necessity for introducing a third central rail on the principle adopted on the Mont Cenis incline. The Company and the Government will of course see that measures are taken to secure that "proper management."

28. In connexion with the subject of accidents it is worth while to notice a new, or rather hitherto undiscovered, source of danger from fire, which was detected on the Cawnpore and Lucknow Railway. Live wood-ash, escaping from the fire of the engine, was blown up, by the draught of the passing train, against the dry wood of the trucks and set fire to them.

Table No. I.

Abstract of the Number and Nature of the Accidents and of the Injuries to Life and Limb which have occurred on all Railways open for Traffic in India during the Year 1866.

Presidency.	Mean Mileage open.	Railways.		Classification of Accidents to Trains, &c. — Main Heads. I. Collisions.	II. Getting off proper Line.	III. Fire.	IV. Running over Cattle.	V. Other Causes.	Total.	Passengers. From Causes beyond their own Control. Killed.	Injured.	From their own Misconduct or want of caution. Killed.	Injured.	Servants of Companies or of Contractors. From Causes beyond their own Control. Killed.	Injured.	From their own Misconduct or want of caution. Killed.	Injured.	Other Persons. While crossing at Level Crossings. Killed.	Injured.	While trespassing (including Suicides). Killed.	Injured.	Miscellaneous. Killed.	Injured.	Total Persons of all Classes. Killed.	Injured.	Killed and Injured.
Bengal	1,345	East Indian	1868	37	14	1	2	3	57	—	32	5	13	4	32	54	83	1	3	24	4	6	4	94	171	265
	1,224		1867	31	15	—	3	13	62	—	6	2	11	2	8	34	59	—	—	24	7	5	5	67	96	163
Ditto	113	Eastern Bengal	1868	1	—	—	—	—	1	14	6	—	—	1	—	3	1	—	—	1	—	—	—	19	7	26
	113		1867	—	—	—	—	—	—	—	—	—	—	—	—	3	3	—	—	2	—	—	—	5	3	8
Ditto	29	Calcutta and South-eastern.	1868	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	28		1867	—	1	—	—	—	1	—	—	—	—	—	—	1	—	—	—	1	—	—	—	2	—	2
Ditto	42	Oude and Rohilkund	1868	—	7	13	—	—	20	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1
	28		1867	—	2	—	—	1	3	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	3	3
Ditto	27	Nulhattee and Azimgunge.	1868	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27		1867	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ditto	246	Punjab	1868	1	—	—	—	—	1	—	—	—	—	—	—	2	1	—	—	—	—	—	—	2	1	3
	246		1867	—	2	3	—	1	6	—	—	—	—	1	—	2	1	—	—	—	—	—	—	3	1	4
Ditto	53	Delhi	1868	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	24		1867	—	1	—	—	1	2	—	—	—	—	1	—	1	3	—	—	—	—	—	—	2	3	5
Madras	656	Madras	1868	—	2	10	—	1	13	—	—	2	4	—	1	8	7	1	—	6	—	—	—	17	12	29
	645		1867	1	3	2	1	—	7	—	—	—	—	2	2	2	4	1	—	1	—	1	—	7	6	13
Ditto	168	Great Southern of India.	1868	—	1	1	1	—	3	1	4	—	—	—	—	1	3	—	—	—	1	—	—	2	8	10
	135		1867	—	1	—	—	2	3	—	—	—	—	—	—	3	—	2	—	1	—	—	—	6	—	6
Ditto	19	Conjeveram Tramway	1868	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19		1867	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bombay	872	Great Indian Peninsula	1868	20	71	2	6	14	113	—	—	2	3	5	14	23	32	1	—	12	5	2	1	45	55	100
	847		1867	14	19	15	16	9	73	12	22	—	1	4	8	32	28	—	1	17	5	—	—	65	65	130
Ditto	306	Bombay, Baroda, and Central India.	1868	3	7	—	17	—	27	1	—	—	1	—	2	9	10	—	—	2	2	1	—	13	15	28
	306		1867	11	8	—	6	6	31	1	5	—	3	—	2	17	15	—	—	5	1	—	—	23	26	49
Ditto	109	Scinde	1868	2	2	—	8	12	24	—	—	—	—	—	1	—	2	—	—	—	1	—	—	—	4	4
	109		1867	1	5	—	5	2	13	—	—	—	—	—	3	—	2	1	—	1	—	—	—	2	5	7
India	3,958	- - -	1868	64	104	27	34	30	259	16	42	9	22	10	50	100	139	3	3	45	13	9	5	192	274	466
	3,724		1867	58	57	20	31	35	201	13	33	2	15	10	23	95	118	4	1	52	13	6	5	182	208	390

TABLE No. II.—NUMERICAL ABSTRACT of ACCIDENTS of all Classes on all Railways open for Traffic in India during the Year 1868.

	Bengal, North-western Provinces, Oude and Punjab.														Madras.						Bombay.						Total.		
	E. Indian.		E. Bengal.		C. & S. E.		O. & R.		N. & A.		Punjab.		Delhi.		Madras.		G. S. of I.		Conjeveram Tramway.		G. I. P.		B. B. & C. I.		Scinde.				
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed & Injured.
PASSENGERS.																													
From causes beyond their own control, viz.:—																													
From accidents to trains	—	31	14	6	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	1	—	—	—	15	40	55
From other causes	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	1	2	3
Total	—	32	14	6	—	—	—	—	—	—	—	—	—	—	—	—	1	4	—	—	—	—	1	—	—	—	16	42	58
Per million of passengers	—	6·36	10·8	4·62	—	—	—	—	—	—	—	—	—	—	—	—	1·27	5	—	—	—	—	·6	—	—	—	·99	2·59	3·58
From their own misconduct or incaution	5	13	—	—	—	—	—	1	—	—	—	—	—	—	2	4	—	—	—	—	2	3	—	1	—	—	9	22	31
Per million of passengers	·99	2·58	—	—	—	—	—	—	—	—	—	—	—	—	·94	1·88	—	—	—	—	·57	·86	—	·6	—	—	·55	1·35	1·9
Total from all causes	5	45	14	6	—	—	—	1	—	—	—	—	—	—	2	4	1	4	—	—	2	3	1	1	—	—	25	64	89
SERVANTS OF COMPANIES AND OF CONTRACTORS.																													
From causes beyond their own control	4	32	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	5	14	—	2	—	1	10	50	60
From their own misconduct or incaution	54	83	3	1	—	—	—	—	—	—	2	1	—	—	8	7	1	3	—	—	23	32	9	10	—	2	100	139	239
Total from all causes	58	115	4	1	—	—	—	—	—	—	2	1	—	—	8	8	1	3	—	—	28	46	9	12	—	3	110	189	299
OTHER PERSONS.																													
Crossing at level crossings	1	3	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	·3	3	6
Trespassers, including suicide	24	4	1	—	—	—	—	—	—	—	—	—	—	—	6	—	—	1	—	—	12	5	2	2	—	1	45	13	58
Miscellaneous	6	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	1	—	—	—	9	5	14
Total from all causes	31	11	1	—	—	—	—	—	—	—	—	—	—	—	7	—	—	1	—	—	15	6	3	2	—	1	57	21	78
Grand total of all classes from all causes	94	171	19	7	—	—	—	1	—	—	2	1	—	—	17	12	2	8	—	—	45	55	13	15	—	4	192	274	466
Mean length of railway open during the year (miles)	1,345		113		29		42		—		246		53		656		168		19		872		306		109		3,958		
Number of passengers carried	5,026,018		1,297,543		311,631		338,054		—		668,590		289,452		2,122,527		785,972		93,696		3,493,312		1,655,988		146,076		16,228,859		
Train mileage (goods and passengers)	4,898,427		351,410		41,037		65,226		—		344,700		80,453		1,416,471		303,654		28,709		2,935,154		793,713		172,702		11,431,656		

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TABLE No. III.

Shewing the TOTAL NUMBER of ACCIDENTS to PERSONS of all kinds, and to TRAINS, &c., on all RAILWAYS open for TRAFFIC in each Presidency of India, during the Year 1868.

Presidencies.		Mean Length of Railway open.	Total Number of Train Miles.	Train Miles per Mile open.	Total Number of Accidents to Trains, &c., of all kinds.	Total Number of Passengers carried.	Average Number of Passengers per Mile opened.	Passengers.		Servants.				Trespassers, &c.		Total.		
								Killed.	Injured.	Beyond own Control.		Within own Control.		Killed.	Injured.	Killed.	Injured.	Killed and Injured.
										Killed.	Injured.	Killed.	Injured.					
Bengal	1868	1,828	5,781,253	3,162	79	7,931,288	4,338	19	52	5	32	59	85	32	11	115	180	295
	1867	1,690	6,334,941	3,706	74	7,134,090	4,221	2	17	4	8	41	69	32	12	79	106	185
Madras	1868	843	1,748,834	2,074	16	3,002,195	3,561	3	8	—	1	9	10	7	1	19	20	39
	1867	780	1,599,383	2,051	10	2,495,787	3,200	—	—	2	2	5	4	6	—	13	6	19
Bombay	1868	1,287	3,901,569	3,031	164	5,295,376	4,115	3	4	5	17	32	44	18	9	58	74	132
	1867	1,262	3,831,565	3,035	117	5,246,653	4,156	13	31	4	13	49	45	24	7	90	96	186
India	1868*	3,958	11,431,656	2,888	259	16,228,859	4,100	25	64	10	50	100	139	57	21	192	274	466
	1867†	3,705	11,766,389	3,176	201	14,866,530	4,012	15	48	10	23	95	118	62	19	182	208	390

* Exclusive of figures for the Nulhattee and Azimgunge Light Railway, but including those for the Conjeveram Tramway.

† Exclusive of figures for both the above lines.

CAPITAL.

29. The total amount of capital which up to the 31st March 1869 had been raised for Indian railways was 82,376,625*l.* Of this sum 6,233,718*l.* was added during the past year. Expenditure.

30. The expenditure by the companies, which is exclusive of the cost of the land granted by the Government, has been about 79,000,000*l.* The amount expended during the year was 4,548,000. Of this 600,000*l.* is owing to the Government on account of advances made to two or three companies, so that there is a sum of about 3,400,000*l.* now available for expenditure by the railway companies during the ensuing year. This expenditure, which will be shared chiefly by the Great Indian Peninsula, the East Indian, the Delhi, and the Oude and Rohilcund companies, and which includes the cost of stores on revenue account sent from this country for all the railways, is expected to amount to 6,600,000*l.* To arrive however at the sum which will probably be expended on construction or *capital* account during the year, a million and a half should be deducted for *revenue* expenses, and half a million must be added for the cost of the works now being undertaken by Government.

31. The following table gives the annual expenditure by all the companies :—

Year.	Miles opened during the Year.	Expended in England.	Expended in India.	Total.
		£	£	£
Up to 1850 -	—	130,375	44,781	175,156
In 1851 -	—	154,212	197,111	351,323
„ 1852 -	—	174,920	252,640	427,560
„ 1853 -	22¼	252,484	418,165	670,649
„ 1854 -	50¼	960,878	768,710	1,729,588
„ 1855 -	98½	1,939,101	1,431,904	3,371,005
„ 1856 -	101¾	1,752,813	1,765,094	3,517,907
„ 1857 -	143	1,324,873	2,092,395	3,417,268
„ 1858 -	145	1,940,052	3,551,073	5,491,125
„ 1859 -	74½	2,507,949	4,654,923	7,162,872
„ 1860 -	208	2,396,924	5,192,846	7,589,770
„ 1861 -	759	1,596,010	4,962,604	6,558,614
„ 1862 -	747	1,854,289	3,956,563	5,810,852
„ 1863 -	233½	1,411,661	3,360,114	4,771,775
„ 1864 -	402¼	1,387,699	2,418,345	3,806,044
„ 1865 -	388½	2,192,090	3,192,323	5,384,413
„ 1866 -	205	3,942,598	3,816,957	7,759,555
„ 1867 -	349	4,045,584	2,979,376	7,024,960
„ 1868	174¾	1,935,012	2,613,626	4,548,638

32. The estimated cost of the lines, as at present sanctioned, and in the hands of the companies, is 97,200,000*l.* Of this 14,000,000*l.* remains to be raised, but the expenditure will be spread over five or six years.

33. Of the 82,376,620*l.* which has been raised, only 800,781*l.*, or less than one per cent., was subscribed in India. The expenditure in India has been about 47,400,000*l.* compared with 31,600,000*l.* in England.

34. The amount raised by debentures is 15,976,515*l.* Particulars of the debenture loans will be found on page 17.

35. The following statements, which have been prepared in the Accountant General's office, furnish detailed accounts of the past and future expenditure of each company :—

STATEMENT No. 1.

Shewing the Amount of Capital estimated to be required for each Undertaking as now sanctioned, the Amount authorised to be raised, the Amount raised, and the Amount expended, to 31st March 1869.

Railway.	Estimated Cost of Lines.	Amount authorised to be raised to 31st March 1869.					Amount raised in England to 31st March 1869.				Amount raised in India to Date of last Advices.	Total Amount raised to 31st March 1869.	Total Amount expended to 31st March 1869 (partly estimated).
		Share Capital.	Debentures.		Debenture Stock.	Total.	Share Capital.	Debentures.		Debenture Stock.			
			Convertible into Shares.	Inconvertible.				Convertible.	Inconvertible.				
	£	£	£	£	£	£	£	£	£	£	£	£	£
East Indian { Main line	27,500,000	19,975,590	2,024,410	4,450,000	—	26,450,000	19,619,072	1,993,310	4,450,000	—	310,283	26,372,665	26,571,270
East Indian { Jubbulpore line	3,500,000	2,196,140	1,003,860	—	—	3,200,000	2,152,295	1,003,860	—	—	7,665	3,163,820	2,603,701
Great Indian Peninsula	26,000,000	17,000,000	—	4,000,000	600,000	21,600,000	16,051,502	—	3,926,950	600,000	394,449	20,972,901	19,653,805
Madras { Main line	6,500,000	4,394,700	1,520,250	335,050	—	6,250,000	4,338,214	1,411,150	335,050	—	—	6,084,414	9,115,127
Madras { Bellary line	4,500,000	3,750,000	—	—	—	3,750,000	3,686,355	—	—	—	—	3,686,355	
Scinde	2,250,000	1,920,200	179,800	150,000	—	2,250,000	1,885,043	179,800	124,600	—	21,775	2,211,218	2,013,365
Indus Flotilla	700,000	542,600	81,400	—	—	624,000	332,505	25,400	—	—	—	357,905	593,683
Punjab	3,000,000	2,150,000	100,000	300,000	200,000	2,750,000	1,983,894	—	300,000	—	11,157	2,295,051	2,623,533
Delhi	6,000,000	5,000,000	—	—	—	5,000,000	4,819,038	—	—	—	17,836	4,836,874	4,019,623
Bombay, Baroda, and Central India	7,750,000	6,285,900	1,114,100	100,000	—	7,500,000	6,232,600	1,114,095	100,000	—	21,664	7,468,359	7,399,039
Eastern Bengal	2,800,000	2,238,000	—	610,700	—	2,848,700	1,954,885	—	610,700	—	14,731	2,580,316	2,589,242
Great Southern of India	1,700,000	1,080,400	169,600	100,000	—	1,350,000	1,079,179	169,600	100,000	—	1,221	1,350,000	1,408,472
Oude and Rohilkund	5,000,000	3,800,000	200,000	—	—	4,000,000	864,747	132,000	—	—	—	996,747	395,795
Total*	97,200,000	70,333,530	6,393,420	10,045,750	800,000	87,572,700	64,999,329	6,029,215	9,947,300	600,000	800,781	82,376,625	78,986,655

* The Calcutta and South-eastern Railway, which has been taken by the Government, is not included in this list. The capital expended on it was about £616,000.

Accountant General's Department,
3d April 1869.

W. G. GOODLIFFE,
Accountant General.

Statement No. 2.

Shewing the Amount raised and expended by each Company during the Year ended 31st March 1869.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1868.	Sums advanced to the Companies on the 31st March 1868.	Amount raised between 1st April 1868 and 31st March 1869.		Amount expended.				Total raised during the Year ended 31st March 1869.	Total Amount expended during the Year ended 31st March 1869 (partly estimated).
					In England, between 1st April 1868 and 31st March 1869.	In India.				
			Share Capital.	Debenture Stock.		Date to which Accounts have been received.	Amount.	Estimated Expenditure between dates specified and 31st March 1869.		
	£	£	£	£	£		£	£	£	£
East Indian - - -	—	60,608	1,097,838	—	291,098	31st Dec. 1868	264,618	120,000	1,097,838	675,716
Great Indian Peninsula - -	578,039	—	2,123,098	600,000	1,025,326	„	656,715	300,000	2,723,098	1,982,041
Madras - - - - -	805,131	—	220,328	—	150,758	„	159,059	60,000	220,328	369,817
Scinde - - - - -	137,263	—	113,724	—	33,796	„	15,343	4,000	113,724	53,139
Indus Flotilla - - -	—	243,478	26,500	—	12,527	„	5,273	1,000	26,500	18,800
Punjab - - - - -	—	542,972	254,685	—	9,681	30th Nov. 1868	22,514	8,000	254,685	40,195
Delhi - - - - -	269,348	—	1,383,350	—	159,840	„	415,607	200,000	1,383,350	775,447
Bombay, Baroda, and Central India	279,266	—	99,196	—	92,359	31st Dec. 1868	166,783	50,000	99,196	309,142
Eastern Bengal - - -	161,136	—	60,800	—	97,044	„	103,818	30,000	60,800	230,862
Great Southern of India - -	2,030	—	—	—	29,606	„	22,896	8,000	—	60,502
Oude and Rohilkund - -	379,730	—	254,199	—	32,977	—	—	—	254,199	32,977
Total - -	2,551,948	847,058	5,633,718	600,000	1,935,012	—	1,832,626	781,000	6,233,718	4,548,638

Accountant General's Department,
3d April 1869.

W. G. Goodliffe,
Accountant General.

Statement No. 3.

Estimated Expenditure for the Year 1869–70 for Purposes of Capital and Revenue.

Railway.	Estimated Expenditure from 1st April 1869 to 31st March 1870.			Sum standing to the Credit or Debit of the Companies, 1st April 1869.	Sums to be raised by the Companies during 1869–70.	Total Amount now placed and to be placed in Home Treasury of Government in 1869–70.	Estimated Balance on the 1st April 1870.
	In England.	In India.	Total.				
	£	£	£	£	£	£	£
East Indian	300,000	700,000	1,000,000	Cr. 361,000	800,000	1,161,000	161,000
Great Indian Peninsula	500,000	1,500,000	2,000,000	Cr. 1,320,000	1,000,000	2,320,000	320,000
Madras	220,000	250,000	470,000	Cr. 655,000	—	655,000	185,000
Bombay and Baroda	100,000	250,000	350,000	Cr. 70,000	330,000	400,000	50,000
Scinde	46,000	10,000	56,000	Cr. 196,000	—	196,000	140,000
Punjab	50,000	50,000	100,000	Deb. 328,000	450,000	450,000	22,000
Delhi	120,000	600,000	720,000	Cr. 817,000	200,000	1,017,000	297,000
Indus Flotilla	12,000	10,000	22,000	Deb. 236,000	270,000	270,000	12,000
Eastern Bengal	20,000	260,000	280,000	Deb. 9,000	300,000	300,000	11,000
Great Southern of India	10,000	20,000	30,000	Deb. 58,000	100,000	100,000	12,000
Oude and Rohilkund	700,000	900,000	1,600,000	Cr. 600,000	1,100,000	1,700,000	100,000
Total	2,078,000	4,552,000	6,628,000	Cr. 4,019,000 Deb. 631,000 Net Cr. 3,388,000	4,553,000	8,569,000	1,310,000

36. The amount of capital issued by each company in the shape of debentures, together with the rate of interest and the dates at which the respective loans expire, will be found in the subjoined statement :— Debentures.

STATE of DEBENTURE LOANS on the 31st March 1869.

Railway.	Amount.			Rate of Interest	Date at which Loan expires.	Whether renewable.
	Convertible.	Inconvertible.	Total.			
	£	£				
East Indian	35,700	—		4½	5th April 1869.	
"	6,000	—		4½	10th July 1869.	
"	356,040	—		5	5th October 1869.	
"	190,000	—		5	20th January 1870.	
"	1,003,860	—		5	23d March 1870	Renewable.
"	—	1,500,000		5	10th August 1870.	
"	—	1,500,000		5	15th Dec. 1870.	
"	664,920	—		5	1st April 1871.	
"	690,650	—		5	9th August 1871	Renewable.
"	50,000	—		4½	10th July 1872.	
"	—	1,000,000		4½	22d August 1872.	
"	—	440,000		4¼	19th March 1873.	
"	—	10,000		4¼	19th March 1875.	
	2,997,170	4,450,000	7,447,170			
Great Indian Peninsula	—	194,600		5	31st Dec. 1869.	
" "	—	521,000		4½	" "	
" "	—	36,900		5	30th June 1870.	
" "	—	67,550		5	31st Dec. 1870.	
" "	—	313,700		4½	" "	
" "	—	382,350		5	30th June 1871.	
" "	—	6,400		4½	" "	
" "	—	583,400		5	31st Dec. 1871.	
" "	—	1,074,450		5	" "	Renewable.
" "	—	435,000		5	30th June 1872.	
" "	—	42,800		4½	" "	
" "	—	268,800		5	30th June 1873.	
	—	3,926,950	3,926,950			
Madras	37,900	24,050		4½	1st July 1869.	
"	202,600	—		5	1st January 1870.	
"	54,900	—		5	1st July 1870.	
"	117,550	311,000		5	1st January 1871.	
"	21,000	—		5	1st July 1871.	
"	479,700	—		5	1st January 1872.	
"	497,500	—		5	" "	Renewable.
	1,411,150	335,050	1,746,200			
Scinde	179,800	—		5	1st May 1870.	
"	—	124,600		4½	1st September 1870.	
	179,800	124,600	304,400			
Indus Steam Flotilla	25,400	—	25,400	5	1st May 1871.	
Punjab	—	300,000	300,000	4½	1st July 1870.	
Bombay, Baroda, and Central India	384,800	—		5	1st January 1870	Renewable.
" " "	—	100,000		4½	15th January 1871.	
" " "	491,900	—		5	1st July 1871	Renewable.
" " "	237,395	—		5	1st July 1872.	
	1,114,095	100,000	1,214,095			
Eastern Bengal	—	18,000		5	1st November 1869.	
"	—	15,250		5	12th April 1871.	
"	—	333,450		5	12th October 1871.	
"	—	62,000		5	1st November 1871	Renewable.
	—	181,900		5	1st November 1874.	
	—	610,700	610,700			
Great Southern of India	500	—		5	1st January 1870.	
" "	58,300	—		5½	1st July 1870.	
" "	—	25,000		4½	1st January 1871.	
" "	—	75,000		4	1st July 1871.	
" "	10,400	—		5	" "	
" "	500	—		5	1st January 1872.	
" "	32,500	—		5	1st July 1872.	
" "	10,000	—		5	1st January 1874.	
" "	57,400	—		5	1st July 1874.	
	169,600	100,000	269,600			
Oude and Rohilkund	5,600	—		5	31st January 1870	Renewable.
" "	200	—		5	14th February 1870	
" "	125,600	—		5	15th April 1870	
" "	200	—		5	28th July 1871	
" "	100	—		5	9th March 1872	
" "	300	—		5	24th March 1872	
	132,000	—	132,000			
			15,976,515			

Expenditure.

37. The statement given below relates to the manner in which the expenditure has been distributed among the various works and departments of the railways:—

Railway.	Works and Bridges.	Permanent Way and Stations.	Freight and Insurance.	Rolling Stock and Engines.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian	9,125,000	6,785,000	2,885,000	3,265,000	3,530,000	3,502,000
Great Indian Peninsula	7,695,000	5,693,000	Including stores, 2,031,000	2,249,000	1,288,000	170,000
Madras	2,669,000	3,203,000		852,000	733,000	376,000
Bombay, Baroda, and Central India	2,875,000	1,776,000	525,000	1,066,000	673,000	294,000
Scinde	564,800	366,000	208,000	197,000	263,000	157,000
Punjab	218,000	796,000	445,000	449,000	403,000	215,000
Delhi	962,000	1,827,000	53,000	383,000	175,000	450,000
Indus Flotilla	Steamers, &c., 565,000	Warehouses, 44,330	34,000	—	63,000	49,000
Eastern Bengal	1,693,000		Included under other heads.	275,000	249,000	306,000
Calcutta and South-eastern	135,000	218,000	Do.	144,000	82,000	23,000
Great Southern of India	928,000		Do.	96,000	154,435	52,000
Oude and Rohilkund	85,750	130,000	Do.	77,300	64,000	104,000

REVENUE AND TRAFFIC.

Traffic receipts.

38. The year 1867–68 commenced with diminishing returns, and did not quite recover the lost ground before its close, but towards the end an improvement was visible, and the lines presented proofs, which have since been realised, of a reviving prosperity. During the winter season the traffic has exceeded all former returns, and the joint gross earnings for several weeks from the East Indian and the Great Indian Peninsula Railways alone have amounted to 100,000*l.* a week, or at the rate of more than 5,000,000*l.* a year. Another satisfactory feature of the *last* accounts is that economy in working the lines is shown by a reduction in the expenses.

39. The net revenue for the year ending 30th June 1868 was 2,100,122*l.*, being 237,178*l.* less than that of the previous year.

40. The gross receipts were 4,831,395*l.*, and the working expenses were 2,731,273*l.*, as compared with 4,875,112*l.* and 2,537,812*l.* of last year.

41. The actual expenditure on the lines which have earned the above amount last year may be taken at 71,000,000*l.*, so that, joining the good with the bad, the dividend realisable was on the average about 3 per cent.

42. The following table gives the receipts and expenses of each company during the year:—

RECEIPTS and EXPENSES of the RAILWAYS for the Year ending 30th June 1868.

Railway.	Receipts.				Expenses.			Percentage of Expenses to Gross Receipts.	Net Receipts.
	Passengers, &c.	Goods and Minerals.	Telegraph and Sundries.	Total.	Working.	Maintenance.	Total.		
	£	£	£	£	£	£	£		£
East Indian	681,826	1,351,992	32,084	2,065,902	828,925	234,930	1,063,855	51·49	1,002,047
Great Indian Peninsula	347,321	1,016,114	16,264	1,379,699	664,115	206,677	870,792	63·11	508,907
Madras: South-west Line	151,878	231,126	15,188	398,192	115,492	61,244	176,736	44·38	221,456
" North-west Line	29,215	86,281	1,320	116,816	33,531	6,968	40,499	34·66	76,317
Bombay, Baroda, and Central India	182,363	199,072	31,004	412,439	201,137	78,491	279,628	67·79	132,811
Scinde	20,503	89,039	2,010	111,552	67,111	20,543	87,654	78·57	23,898
Punjab	38,210	56,321	2,069	96,600	57,097	14,858	71,955	74·48	24,645
Delhi	7,522	1,194	62	8,778	15,373	15	15,388	175·3	6,610
Eastern Bengal	70,386	75,222	3,076	148,684	57,117	15,503	72,620	48·84	76,064
Great Southern of India	37,478	24,763	1,204	63,445	26,531	4,264	30,795	48·53	32,650
Oude and Rohilkund	24,773	4,357	158	29,288	19,346	2,005	21,351	72·9	7,937
Totals	1,591,475	3,135,481	104,439	4,831,395	2,085,775	645,498	2,731,273	56·53	2,100,122

Statement of Traffic Results for the Year ending 30th June 1868.

Railway.	Length of Line Open.			Length of Sidings.	Passenger Traffic.							Goods Traffic.							Number of Trains run.					No. of Miles travelled by Trains, exclusive of Shunting, &c.				
					Number of Passengers (exclusive of Holders of Season and Periodical Tickets).				Number of Holders of Season and Periodical Tickets.	Carriages.	Horses.	Dogs.	Live Stock.			Minerals.			General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	Mineral Trains.	Mixed Trains.	Total.	By Passenger Trains.	By Goods and Mineral Trains.	By Mineral Trains.	By Mixed Trains.	Total.
	Double.	Single.	Total.		1st Class.	2d Class.	3d Class, including Parliamentary, &c.	Total Passengers.					Cattle.	Sheep.	Pigs.	Coal and Coke.	Other Minerals.	Total.										
										No.	No.	No.	No.	No.	No.	Tons.	Tons.	Tons.	Tons.									
East Indian - -	175	956	1,131	243½	35,101	116,434½	4,682,294	4,833,829½	557	1,223	6,350	6,617	1,088	106	7	261,533	—	261,533	706,038	7,023	18,232	—	8,504	33,759	1,701,047	3,146,479	—	63,441½	4,910,967½
Great Indian Peninsula - - -	100½	773½	874½	—	31,749	192,039	3,384,107	3,607,895	1,412	514	8,426	6,495	3,913	343,072	8	81,079	307,765	388,844	503,239	10,474	17,350	5,595	7,593	38,012	854,622	1,190,564	37,392	690,044	2,773,522
Madras (South-west Line) -	—	492	492	—	7,788	53,915	1,536,138	1,602,861	6	301	3,781	2,723	6,243			—	—	—	206,906	—	—	—	7,102	7,102	—	—	—	1,134,320	1,134,320
" (North-west Line) -	—	153	153	—	907½	5,437	427,476	433,820½	—	216	705	550	667			—	—	—	92,894	—	—	—	3,510	3,510	—	—	—	252,620	252,620
Bombay, Baroda, and Central India - -	15	291	306	—	7,701	47,321	1,580,476	1,635,498	32	293	2,207	1,991	5,067	196,061	254	6,255	1,831	8,086	163,988	1,077	3,983	4,195	2,066	11,321	230,200	517,564	39,918	93,832	681,564
Scinde - - -	5	104	109	43	1,810	5,715	134,508	142,003	2,894	95	2,879	691	1	168	2	5,300	—	5,300	160,604	315	1,205	—	1,019	2,539	33,429	118,652	—	61,253	213,334
Punjab - - -	—	246	246	—	6,274½	37,729½	568,606	612,610	—	48	2,012	1,190	30	133	—	—	—	—	63,340	3,412½	1,809	—	—	5,221½	204,084½	159,721	—	—	363,805½
Delhi - - - -	—	53	53	—	2,530	6,796	129,740	139,066	—	17	392	521	9	20	—	—	—	—	8,373½	—	—	—	1,340	1,340	—	—	—	35,215	35,215
Eastern Bengal -	—	113½	113½	—	30,844½	42,183	1,167,361	1,240,388½	275	137	640	982	131	375	—	9,062	12,661	21,723 Railway Materials, 9,774	110,032	2,863	1,617	—	63	5,110	160,986½	124,711½	—	52,920	347,618
Great Southern of India - -	—	168	168	12	2,581	8,936	553,020	564,537	—	160	593	866	39	9	—	—	—		49,306	All trains are "Mixed."—No return made					—	—	—	269,612½	269,612½
Oude and Rohilkund	—	42	42	4½	2,761½	9,060½	232,171½	243,993½	—	63	117	600	169	23	—	—	—	—	18,412	—	—	—	1,422	1,422	—	—	—	59,673	59,673

STATEMENT of TRAFFIC RESULTS for the Year ending 30th June, 1868—*continued.*

Railway.	Number of Engines employed to perform the Work described in the foregoing Columns.	Average Fares per Mile.			Receipts (Gross) from Passenger Traffic.										Receipts (Gross) from Goods Traffic.							Miscellaneous Receipts.	Total Receipts from all Sources of Traffic.	Average Receipts per Train Mile.
					Receipts from Passengers.						Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c., conveyed in Passenger Trains.	Receipts from Mails.	Total Receipts from Passenger Traffic.	Receipts per Train Mile from Passengers.		Minerals.								
		1st Class.	2d Class.	3d and 4th Class.	1st Class.	2d Class.	3d Class, including Parliamentary, &c.	Holders of Season and Periodical Tickets.	Special Trains.	Total from Passengers.					Live Stock.	Coal and Coke.	Other Minerals.	Total from Minerals.	General Merchandise.	Total Receipts from Goods Traffic.	Receipts per Train Mile from Goods.			
		d.	*d.*	*d.*	£	£	£	£	£	£	£	£	£	*s.*	£	£	£	£	£	£	*s.*	£	£	*s.*
East Indian	352	*	*	*	37,616	49,592	460,773	2,930	1,972	572,887	77,334	773	650,996	2·6	3,391	150,503	—	150,503	1,172,003	1,325,899	5·2	28,231	2,005,126	8·1
Great Indian Peninsula	170	2·06	1·63	·45	19,134	30,269	243,545	2,118	3,190	298,264	42,723	6,374	347,361	2·5	12,276	47,357	20,556	67,913	937,759	1,017,948	7·3	—	1,365,308	9·3
Madras (South-west Line)	81	2·06	·63	·34	10,987	12,166	103,456	77	293	131,979	17,921	—	149,900	2·6	650	—	—	—	230,475	231,125	4·07	17,167	398,192	7·
„ (North-west Line)	19	2·06	·63	·34	673	808	24,605	—	—	26,086	3,129	—	29,215	2·3	145	—	—	—	85,702	85,847	6·7	1,754	116,816	9·2
Bombay, Baroda, and Central India	*	2·06	1·	·50	3,947	10,476	151,388	44	936	166,791	15,508	205	182,504	5·3	9,561	2,421	15,522	17,943	188,144	215,648	6·3	—	398,152	11·6
Scinde	19	1·44	1·03	·40	876	1,675	15,008	63	—	17,622	2,332	—	20,504	1·9	6	262	—	262	88,771	89,039	8·3	2,010	111,553	10·4
Punjab	*	1·77	·94	·27	2,347	6,197	25,440	—	—	33,984	4,145	80	38,210	2·1	38	—	—	—	56,282	56,320	3·09	—	94,531	5·19
Delhi	*	2·06	1·03	·31	522	453	4,279	—	—	5,254	402	9	5,665	3·2	2	—	—	—	1,099	1,101	·6	—	6,796	3·8
Eastern Bengal	*	2·06	1·03	·51 ·34	3,927	3,111	56,809	598	—	64,445	5,349	4,209†	74,003	4·2	95	4,117	6,037	10,154	64,974	75,223	4·3	—	149,226	8·5
Great Southern of India	15	2·06	·57	·34	821	522	34,174	—	67	35,584	1,893	—	37,477	2·7	56	—	—	—	24,707	24,763	1·8	1,205	63,445	4·7
Oude and Rohilkund	4	2·16	·62	·33	1,070	1,262	12,266	—	—	14,598	1,897	—	16,495	5·5	13	—	—	—	5,330	5,343	1·7	—	21,838	7·3

* Not stated. † Mails, Telegraphs, &c.

STATEMENT shewing the EXPENSES connected with the MAINTENANCE and WORKING of the RAILWAYS, in the Gross, and per Train Mile, for the Year ending 30th June 1868.

Railway.	Maintenance and Renewal of Way and Works.		Cost of producing Locomotive Power by Wages and Materials.		Repairs and Renewals of Carriages and Waggons.		Traffic Charges.				Rates and Taxes.		Compensation for Personal Injury, &c.		Compensation for Damages and Loss of Goods.		Legal and Parliamentary Expenses.		Miscellaneous Working Expenditure, not included in the foregoing.		Total Working Expenditure.	
							Coaching.		Merchandise.													
	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.
	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	s.
East Indian	230,222	11·3	336,979	16·4	83,170	4·	180,306	8·8	Entered under Coaching	—	3,579	·17	111	·005	2,381	·11	966	·04	163,188	7·9	1,000,906	4·
Great Indian Peninsula	206,677	17·8	335,508	29·	66,760	5·7	48,182	4·1	124,937	10·8	—	—	5,958	·4	1,962	·16	951	·07	79,855	6·8	870,792	6·2
Madras (South-west Line)	63,395	13·4	62,923	13·3	6,234	1·3	12,620	2·7	18,881	3·9	292	·05	—	—	51	·01	101	·02	12,240	2·6	176,737	3·1
" (North-west Line)	7,790	7·3	14,188	13·4	1,507	1·4	1,854	1·7	3,994	3·7	4	—	—	—	—	—	—	—	11,159	10·5	40,499	3·2
Bombay, Baroda, and Central India	78,491	29·	87,972	30·9	32,647	11·5	16,966	5·9	24,352	8·5	610	·2	—	—	2,209	·7	1,767	·6	34,614	12·1	279,628	8·2
Scinde	20,543	23·1	35,178	39·5	3,958	4·4	18,722	21·	Entered under Coaching.	—	—	—	—	—	Entered under Coaching.	—	118	·13	9,136	10·2	87,655	8·2
Punjab	14,858	9·7	26,517	16·6	1,523	1·	12,313	8·	3,544 Partly entered under Coaching.	2·3	192	·12	—	—	136	·08	27	·01	12,841	8·4	71,955	3·9
Delhi	—	—	6,810	31·3	490	2·3	5,547	25·8	Entered under Coaching.	—	—	—	—	—	48	·22	—	—	2,134	9·9	15,034	5·8
Eastern Bengal	15,504	10·7	18,890	13·	4,511	3·1	8,816	6·1	7,912	5·4	159	·11	—	—	1,400	·9	212	·14	15,215	10·5	72,619	4·1
Great Southern of India	6,033	5·3	15,206	13·5	3,042	2·7	4,265	3·8	Entered under Coaching.	—	—	—	—	—	—	—	—	—	2,148	1·9	30,794	2·2
Oude and Rohilkund	379	1·5	4,507	18·1	1,193	4·8	4,232	17·	Entered under Coaching.	—	—	—	—	—	16	·06	—	—	5,630	22·7	15,960	5·3

Receipts and expenses.

43. The tables on pp. 19–21, relating to the receipts and working expenses of each railway, furnish statistics which are useful and interesting, as well for comparison as for the general results which they exhibit. The number of passengers conveyed was 15,066,530, as compared with 13,746,354 of the previous year, and 12,867,000 of the year before that. Of the 15,000,000 conveyed last year, only 130,000, or less than 1 per cent., were 1st class, and 535,000, or about $3\frac{1}{2}$ per cent., were 2nd class.

44. The receipts from passengers were 1,591,475*l.* compared with 1,376,812*l.*, and from goods 3,135,481*l.*, compared with 3,499,868*l.* of the previous year.

45. It will be observed that the proportion per cent. of expenditure to total receipts varies considerably. On the Scinde line, which is short and expensive to work, and with a very moderate traffic, it is 78·57; on the Madras North-west line it is only 34·66.* On English lines the variation is greater still, the working expenses on some amounting to 23, 41, and 51 per cent. only, and on others to 89 and even more than 100 per cent., compared with the receipts. The average in 1866 was, England and Wales 49, Scotland 49, Ireland 57.

Train mileage receipts and expenses.

46. The train mileage receipts and expenses, which are the best tests that can be applied to the working of a railway, are shown in the subjoined table:—

TRAIN MILEAGE RECEIPTS and EXPENSES, 1867–68.

Railway.	RECEIPTS.	EXPENSES.										
	Total from all Sources.	Maintenance.	Locomotive.	Rolling Stock.	Passenger Traffic.	Goods Traffic.	Rates and Taxes.	Personal Compensation.	Compensation for Damage.	Legal Expenses.	Miscellaneous.	On account of all Departments.
	s.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*s.*
East Indian	8·1	11·3	16·4	4·	8·8		·17	·005	·11	·04	7·9	4·
Great Indian Peninsula	9·8	17·8	29·	5·7	4·1	10·8	—	·4	·16	·07	6·8	6·2
Madras, South-west Line	7·	13·4	13·3	1·3	2·7	3·9	·05	—	·01	·02	2·6	3·1
„ North-west „	9·	7·3	13·4	1·4	1·7	3·7	—	—	—	—	10·5	3·2
Bombay, Baroda, and Central India	11·6	27·6	30·9	11·5	5·9	8·5	·2	—	·7	·6	12·1	8·2
Scinde	10·4	23·1	39·5	4·4	21·		—	—	—	·16	10·2	8·2
Punjab	5·19	9·7	16·6	1·	8·	2·3	·12	—	·08	·01	8·4	3·9
Delhi	3·8	—	31·3	2·3	25·3		—	—	·22	—	9·9	5·8
Eastern Bengal	8·5	10·7	13·	3·1	6·1	5·4	·11	—	·9	·14	10·5	4·1
Great Southern of India	4·7	5·3	13·5	2·7	3·8		—	—	—	—	1·9	2·2
Oude and Rohilkund	7·3	1·5	18·1	4·8	17·		—	—	·06	—	—	5·3

47. A considerable difference will be observed in the train mileage receipts and expenses of the various lines. That large receipts produce little benefit unless attended with a moderate expenditure is shown by the example of the Bombay and Baroda and of the Scinde companies, whose train mileage receipts are largest and whose net receipts are the least. The maintenance charges of these lines are 27*d.* and 23*d.* per train mile respectively, while those of the East Indian, Eastern Bengal, and Great Southern are only 11·3*d.*, 10·7*d.*, and 5·3*d.* The great difference may in some measure be accounted for by the exceptional expenses on account of the repairs of works damaged by floods. On branches of the same railway there is sometimes a considerable difference in the maintenance charges. On the North-west line of the Madras the cost per train mile has been 7·3*d.*, on the South-west 13·4*d.* An example is furnished on this line of the results produced by employing iron sleepers. On the portion which is laid with wooden sleepers the expense of maintenance was 113*l.* 5*s.* 10*d.* per mile. On the part that was laid with iron it was only 69*l.* 7*s.* 4*d.* per mile. If proof were wanting, it is thus given that where a suitable ballast for iron sleepers is available, it is true economy to use them.

Locomotive Department.

48. The next item of expenditure which presents the greatest contrast on different lines is that of the Locomotive Department. While the train mileage cost of this department on the East Indian is 16·4*d.*, on the Great Indian Peninsula it is 29*d.*, and on the Scinde 39·5*d.* The reason of this is plain. The East Indian pays on an average about 20*s.* a ton for native coal. The lines on the western coast are at present

* The case of the Delhi is quite exceptional, and with regard to itself can be taken as no criterion of the future. Portions of the line only have been open. There have been heavy expenses for repairing damages from floods, and little traffic could be expected.

dependent for coal upon England or Australia, the cost of which comes to from 60*s.* to 80*s.* a ton. The railways on the Madras coast are, however, equally deficient in a supply of native coal, and have during the past year paid even a higher rate for English coal, and yet the cost of their locomotive department is less than those in Bengal, amounting only to 13·4*d.* on the Madras, and to 13·5*d.* on the Great Southern. This may in some measure be accounted for by the lowness of wages and the lightness of their trains compared with those on the East Indian; but it is also due to the use of a considerable proportion of wood fuel, and also to good management. Fuel must always be a source of great expense on those lines which are at a distance from coal producing districts or from forests. It is therefore most important, in the interests of Indian railways, to develope the coal resources of the country, and to regulate and preserve the forests. The Government is very anxious to promote both these objects. I have referred to Australian coal; it has been tried on some of the lines of Western India, and has been well reported on; the experience of the locomotive superintendent of the Scinde company is that "it is equal "to Welsh coal in all respects, its evaporative power is nearly equal to Welsh coal, "but the consumption per mile is less than with Welsh coal." The price hitherto has been under that of English or Welsh coal. Fuel made of compressed coal dust and certain cohesive ingredients has also been used and found to answer well. Experiments have lately been made in this country by Mr. F. C. Danvers, of this office, with the view of devising means for the manufacture in India, with materials on the spot, of blocks of this kind of fuel. Fuel.

49. With regard to lubricating substances, it is now generally admitted that oil should be used for axle boxes on Indian railways. Mr. Wright, the locomotive superintendent of the Madras Railway, introduced a plan of applying oil to the axle which materially reduces the cost of haulage as well as of wear and tear. Sufficient attention has perhaps hitherto hardly been paid to the importance of adapting the power used to the results expected; waste in this respect, whether it be caused by running too many carriages and trucks, or trucks and carriages of too great a weight, or by producing unnecessary friction, adds to the haulage cost of every train, and makes a great difference in a year's returns. Lubricating substances.

50. The question as to what proportion the dead weight of rolling stock should bear to the load carried has been fully discussed by the consulting engineers to the different companies; and the result will be the adoption of such principles in the construction of trucks, waggons, and vehicles of all sorts as will secure a strength and capacity suited to the requirements of the traffic. Proportion of dead weight to carrying power.

MISCELLANEOUS.

51. Among the miscellaneous questions connected with railways which have been under discussion during the past year the following may be referred to:—The question of an uniform system of weights and measures for India has received the consideration of the Government of India, and it has been decided by your Grace that the metric system in connexion with weights is to be introduced, the kilogramme being adopted as the new unit. Weights and measures.

52. Arrangements have been made between the Government and the companies for running special postal trains when required, the cost of their haulage being paid by Government. Carriages for sorting letters are also to be used in some cases, and Government is also to pay for the haulage of these. Postage arrangements.

53. When famine threatened certain districts in the northern and western parts of India, arrangements were made for the conveyance of grain to the districts where scarcity prevailed, at $\frac{1}{8}$ of a pie per maund per mile, or less than one halfpenny per ton per mile. Famine rates for grain.

GUARANTEED INTEREST.

54. The guaranteed interest paid out of the revenues of India during the past year ending 31st December, amounted to 3,704,388*l.*, being 465,546*l.* more than the previous year. The receipts, however, from the railways which have been paid in reduction of this sum amounted to about 2,200,000*l.*, so that the actual disbursement by Government on this account was about 1,500,000*l.*

55. The whole sum which Government has advanced for interest since the commencement of the railways now amounts to 25,751,073*l.*, of which 13,658,753*l.* has been repaid by the companies, leaving a debt against them of 12,092,320*l.* (exclusive of simple interest), to be paid out of excess profits.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

Statement of the Total Amount of Interest advanced to each of the under-mentioned Railway Companies to 31st December 1868.

Company.	Interest paid up to 31st December 1867.	Interest paid during 1868.			Total Amount paid up to the end of 1868.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian - - -	9,911,665 1 5	1,382,584 3 11	12,848 8 10	1,395,432 12 9	11,307,097 14 2
Great Indian Peninsula	4,912,856 10 2	865,905 19 1	19,534 12 4	885,440 11 5	5,798,297 1 7
Madras - - -	2,979,010 17 9	448,135 6 11	—	448,135 6 11	3,427,146 4 8
Scinde - - -	731,352 4 5	100,449 0 0	1,084 15 0	101,533 15 0	832,885 19 5
Punjab - - -	617,525 16 0	99,195 7 8	481 1 9	99,676 9 5	717,202 5 5
Delhi - - -	275,411 15 9	155,254 4 0	565 17 6	155,820 1 6	431,231 17 3
Indus Steam Flotilla -	134,321 19 7	17,238 3 11	—	17,238 3 11	151,560 3 6
Bombay, Baroda, and Central India - -	1,648,341 12 11	360,459 0 6	1,083 4 4	361,542 4 10	2,009,883 17 9
Eastern Bengal - -	536,415 10 9	121,037 16 9	698 15 11	121,736 12 8	658,152 3 5
Great Southern of India	267,116 4 3	61,460 14 9	—	61,460 14 9	328,576 19 0
Oude and Rohilkund -	54,486 13 4	34,551 18 8	—	34,551 18 8	89,038 12 0
Total - - £	22,068,504 6 4	3,646,271 16 2	36,296 15 8	3,682,568 11 10	25,751,072 18 2

Accountant General's Department,
2d April 1868.

W. G. GOODLIFFE,
Accountant General.

Guaranteed interest.

56. The gross amount advanced by the Government every year necessarily increases with the growth of capital, but the net amount depends upon the earnings of the railways. The following statement shows the variation in these payments. It is hardly necessary to observe that the capital on which the guaranteed interest is payable is invariably larger than the capital expended on the lines earning revenue, and this will necessarily be the case so long as the railways are unfinished.

The following statement shows the amount which has been paid each year for guaranteed interest, and the amounts earned by the companies:

Year.	Amount paid for Guaranteed Interest.	Amount of Railway Earnings.	Net Amount paid out of the Revenues of India.
	£		
1849 - -	1,525		
1850 - -	31,239		
1851 - -	30,020		
1852 - -	65,044	From 1849	
1853 - -	69,072	to 1858,	
1854 - -	109,069	£	£
1855 - -	213,307	488,866	1,788,052
1856 - -	404,507		
1857 - -	619,443		
1858 - -	733,692		
1859 - -	1,013,138	403,057	610,081
1860 - -	1,336,752	389,413	947,339
1861 - -	1,668,340	391,162	1,277,178
1862 - -	1,982,324	625,615	1,356,709
1863 - -	2,323,605	821,548	1,502,057
1864 - -	2,569,798	1,129,851	1,439,947
1865 - -	2,796,677	2,865,574	‡
1866 - -	2,964,074	2,347,085	616,989
1867 - -	3,238,842	1,989,112	1,249,730
1868 - -	*3,704,388	†2,207,470	1,496,918
	25,874,856	£13,658,753	12,285,000
Deduct Calcutta and South-Eastern £ 163,725		Less, excess in 1865	- 68,897‡
Indian Tramway 1,500	165,225	- - -	- 12,216,103
			165,225
	25,709,631		12,050,878
Add Oude and Rohilkund prior to 1867 - -	41,442	- - -	- 41,442
	£25,751,073		£12,092,320

* Inclusive of Calcutta and South-eastern, 20,320*l.* Inclusive of Indian Tramway, 1,500*l.*
† Partly estimated.
‡ The amount of railway earnings this year exceeded the amount paid for guaranteed interest by 68,897*l.*

The following observations relate to the various undertakings, in the order in which they are generally placed:—

EAST INDIAN RAILWAY.

East Indian Railway.

57. The constructive operations on this line are now coming to a conclusion. The chord line is the only remaining work which will open fresh means of communication. All other operations are directed to the doubling of certain sections of the line, and to giving a finishing touch to station buildings, to dwellings for the officers and servants of the company, and to works of detail. It was estimated by Mr. A. M. Rendel, the consulting engineer to the company, who went out to India in the winter of 1867-68 for the purpose, among other objects, of examining the unfinished portions of the undertaking, that a sum of 3,340,000*l.* would be required to carry out these necessary operations. Of this sum 2,860,000*l.* has been raised, so that only about half a million more will have to be provided. Expenditure on capital account will then cease, unless the increase of traffic should demand further accommodation and more rolling stock.

58. The completion of the chord line, which will be opened next year, will shorten the distance between Calcutta and all places above Luckeserai by 70 miles.

59. The proposal to extend the railway into Calcutta by a bridge over the Hooghly has been superseded by the determination of Government to construct an ordinary road bridge, which will connect the Howrah terminus of the railway with the city, and meet all the requirements both of the railway and of the community. The designs for this bridge are now being prepared by Mr. A. M. Rendel.

60. With regard to the traffic, there was a falling off in the early half of 1868, which was accounted for by the great reduction in the traffic in cotton, the low price in England checking exportation. The latter half showed signs of improvement, and the increase now is considerable. The reduction in the maintenance and working charges is a very satisfactory feature in the last returns.

61. For the two last years ending 31st December they were as follow:—

	Gross Receipts.	Expenses.	Net Receipts.
	£	£	£
1867 -	2,153,054	1,074,070	1,078,984
1868 -	2,234,980	997,033	1,237,947

GREAT INDIAN PENINSULA RAILWAY.

Great Indian Peninsula.

62. The object to which the chief energies of the company connected with this undertaking are now directed is the repair of those works on the open line which failed, and the completion of the final sections of the North-east and South-east branches, which will effect through railway communication between Bombay and Calcutta and Bombay and Madras. It is hoped that the former of these lines will be finished in the course of next year, but I fear that the latter will hardly be ready for opening until 1872.

63. The masonry bridges which have given way have been replaced by structures consisting of wrought-iron girders supported on brick, and in some instances iron foundations. It is estimated that the reconstruction of these works and the general repairs will cost about 1,300,000*l.*

64. The traffic has been influenced by the depression of trade. The expense of maintenance and working still remains very high, being 63·11 per cent. of the gross receipts, but efforts are being made to reduce it.

65. In the year 1868 the gross receipts amounted to 1,480,039*l.*, compared with 1,486,712*l.* of the previous year, the net receipts being 565,277*l.* and 658,706*l.* respectively.

MADRAS RAILWAY.

Madras.

66. Thirty-two miles have been added to the open length of this undertaking during the year. Steady progress has, upon the whole, been made with the works on the unfinished portions, and the line towards the point of junction with the Great Indian Peninsula Railway is in a state which promises completion sooner than that line will be ready to join it.

67. The branch to the foot of the Neilgherry Hills, which formed a part of the system originally included in this company's contract, is about to be put in hand.

68. In July the line was damaged and the traffic interrupted in two places by the bursting of tanks, which increased the force of the floods so much as to wash away one bridge on the Bangalore branch and another on the North-west line. In reconstructing these bridges wider openings have been made.

69. Lord Mayo, on his way from Bombay to Calcutta to assume the reins of Government, proceeded by way of Madras along this railway, and during his journey from

Beypore rode for 60 miles on the engine, expressing himself much pleased, after this personal observation, with the condition of the line.

70. The traffic continues to present a steady and satisfactory progress. Notwithstanding the depressed state of trade during the year, there has been a fair increase both in passengers and goods, and the line has been maintained and worked with the care and economy usually shewn by the officers of this company.

71. The gross receipts of the year ending December 1868 were 566,141*l.* against 470,992*l.* of the previous year, and the net receipts 331,217*l.* against 267,737*l.*

BOMBAY AND BARODA RAILWAY.

Bombay and Baroda Railway.

72. The construction works on this line are at present confined to the short extension over the Saburmuttee river at its northern extremity and to the execution of the necessary works at the Bombay terminus.

73. It has now been decided to fix the Bombay terminal station at Colaba, and no further delay will probably occur in taking the line there and in putting up the buildings.

74. The large bridge which carries the line over the Nerbudda did not escape the force of the last monsoon floods. Two spans were washed away on the 10th July. The traffic was interrupted only for a short time, a timber staging having been erected without delay for the passage of trains. This is not the first warning that has been given of the liability of the Nerbudda bridge to be damaged by the violence of the floods; and an investigation is now being made by Mr. John Hawkshaw, the eminent engineer, in conjunction with the chief resident engineer of the line, Mr. Mathew, and Captain Hancock, the Government consulting engineer, into the stability of this and similar structures, and measures will probably soon be taken for adding to their strength and durability.

75. The past year has not been a favorable one for traffic. The depressed state of trade has affected both passenger and goods traffic. That for the two last years was as follows:—

Year ending December	Gross Receipts. £	Expenses. £	Net Receipts. £
1867 - -	425,050	282,899	142,151
1868 - -	419,714	272,495	147,219

SCINDE RAILWAY.

Scinde Railway.

76. This line has been well maintained during the year, and the monsoon rains passed over without inflicting any injury upon it.

77. The traffic shows an increase over the preceding year, and the working expenses have been considerably reduced.

78. THE INDUS FLOTILLA

Indus Flotilla.

has been conducted with care and regularity. The traffic received a considerable impulse from the conveyance of troops on their return from the Abyssinian Expedition; but last half-year, without this aid, the earnings would have been greater than on any previous occasion. No addition has been made to the fleet, which consists of 16 steamers, including three tugs, and 46 barges.

79. THE PUNJAB RAILWAY

Punjab Railway.

has been maintained in good order, and the works on construction account have been trifling. The Ameer of Cabul travelled over a portion of this line on his way to meet the Viceroy at Umballah, on the 27th March, and expressed his admiration for this mode of locomotion, which he had never before seen.

80. THE DELHI RAILWAY

Delhi Railway.

was opened for a further distance of 120 miles, connecting Meerut with Umballah, in November, by the late Viceroy, Lord Lawrence. He afterwards traversed the whole distance from Umballah to Calcutta, a length of 1,300 miles, in 44 hours. The works on the unopened portions of the line have been carried on with energy The most important of these are the bridges over the Sutlej and Beas. Another one hundred and forty miles of this line will probably be opened before the end of the year. The opening of the remaining six miles depends upon the completion of the Sutlej bridge.

81. One of the difficulties attending bridge construction in India is the shifting character of the streams; and an example of this has unfortunately occurred on the

Sutlej where this very bridge is to cross it. The river, which runs through a valley five miles wide, and has for the last 70 or 80 years flowed along the northern side, seems now disposed to change its course to the southern side. It has already so far altered its position as to make it necessary to extend the bridge, which was originally designed for a crossing of 4,000 feet, a further length of 2,200 feet, involving a cost of upwards of 60,000*l.*

82. The four undertakings which now comprise the system of the Scinde Railway are about to be amalgamated under the sanction of a special Act of Parliament. Much advantage, both in the shape of economy and simplicity of management, will be obtained by this arrangement.

EASTERN BENGAL RAILWAY.

Eastern Bengal.

83. The works on the Goalundo extension of this line have been going on steadily; but the erection of the bridge over the Goraie river has not progressed so rapidly as was expected. The bed of the river presented difficulties which required deeper foundations for some of the piers than was contemplated. The line, with the exception of this bridge, may be completed in February next, and will be opened upon arrangements being made for carrying the traffic across the river.

84. There has been a steady development of traffic both in passengers and goods; and if the present low rate of expenditure is maintained, there is every prospect of more favorable returns.

85. The Calcutta and South-eastern Railway, which was taken over by the Government in May 1868, is now worked by the Eastern Bengal agency, under an arrangement by which the Government pay for superintending and terminal charges and take the receipts of the line. No account has been received of its working since this change was made.

86. The gross receipts of the Eastern Bengal for the year 1868 were 198,811*l.* as compared with 156,917*l.* of the previous year, the net receipts being 96,210*l.* against 77,844*l.*

GREAT SOUTHERN OF INDIA RAILWAY.

Great Southern of India.

87. The whole length of line which this company undertook to construct has been at work for more than a year. Its junction with the Madras Railway at Erode took place on the 1st January 1868, and arrangements were made between the two companies for making that station available for the use of each.

88. The question of the extension of the line in a southerly direction to Tuticorin is now under consideration.

89. The traffic has been conducted economically, and has increased, but the returns are not yet very considerable. Comparing the last two years the results are as follows:—

	Receipts.	Expenses.	Net Receipts.
1867	£58,191	£27,682	£30,509
1868	73,380	33,601	39,779

OUDE AND ROHILKUND RAILWAY.

Oude and Rohilkund.

90. No addition has been made to the open portion of this line, viz., between Cawnpore and Lucknow, but progress has been made with the works on the extension from Lucknow to Byram Ghât, and it is expected that this section will be ready for traffic next year.

91. The route for the other lines of this company's system has been settled, and is being staked out. Starting from Moradabad the line will proceed south of the Ramgunga River to Chundowsee, with a branch from thence to Allyghur on the East Indian Railway, crossing the Ganges at Ram Ghât, the main line going on to Bareilly and Shahjehanpoor to Lucknow, Nawubgunge, Fyzabad, and Akberpoor, whence it will take two directions, one going to Benares, the other to Buxar. Between Benares and Lucknow, a distance of 203 miles, the average height of the embankments will be about three feet; there will be 10 bridges, four unimportant, and the rest of no real magnitude, and the cost is now estimated at about 10,000*l.* per mile.

92. The light system of permanent way put down on the Cawnpore and Lucknow line is not found to be suitable for the 5 ft. 6 in. gauge. A modification will be introduced on the rest of the line. The rails determined on weigh 60 lbs. to the yard, and cast-iron sleepers will be generally used.

93. It is not unlikely that special arrangements will be made for the execution of the branch line to the Nynee Tal ironworks, and that for this line a narrow gauge will be found suitable.

THE INDIAN TRAMWAY.

94. No addition has been made to the 18¾ miles between Arconum and Conjeveram, which is at present the extent of this undertaking. The operations of the company are, however, soon likely to be enlarged, as negotiations are in progress for continuing the line to Cuddalore, the cost of which is estimated at about 800,000*l.* The line has been maintained in good order, but the traffic during the year has, like that of other railways, suffered from the state of trade.

SUMMARY.

95. The principal information contained in the foregoing report may be briefly summed up as follows:

96. The length of line now open is 4,096 miles, of which 175 miles were completed during the past year. About 1,830 miles of the system already determined on remain to be constructed; but a new scheme for additional railway communication throughout India is about to be commenced and to be executed, for the most part, through the direct instrumentality of Government. It is expected that the great trans-peninsula line which will connect Calcutta with Bombay will be completed and open for traffic in the autumn of next year.

97. The capital which has been expended on Indian railways, exclusive of the cost of the land, amounted on the 31st March last to 78,986,655*l.*, of which 4,548,638*l.* was expended during the past year. The expenditure in this country last year was 1,935,012*l.*, in India 2,613,626*l.*

98. The number of persons who as proprietors of India Railway Stock are directly interested in the success of these undertakings has now risen to 45,055, an addition of 4,015 having been made during the year. There are debenture holders also to the number of 8,444.

99. Stores and materials to the amount of 188,858 tons, and of the value of 1,849,554*l.* have been sent out during the year, making a total of 3,718,049 tons, which, at a cost of 25,052,135*l.* have been shipped from this country to India since the commencement of railway operations there.

100. It has not been a prosperous year for traffic; trade has been almost stagnant; certain districts have been threatened with famine, and there has been a general depression in all descriptions of business. This has, of course, told upon the internal communication of the country, and the railway receipts have suffered accordingly. The falling off, however, is confined to goods traffic. The passenger traffic shews an increase both in numbers and receipts. Comparing the two last years, the amounts realised from passengers were 1,591,475*l.* and 1,376,812*l.* respectively. That from goods in 1867-68 was 3,135,481*l.*, in 1866-67 3,326,607*l.* The total net receipts in 1867-68 were 2,100,122*l.* as against 2,337,300*l.* in 1866-67.

101. The whole amount that has been advanced by Government for guaranteed interest from the beginning in 1849 now exceeds 25,700,000*l.* Of this about 13,650,000*l.* has been paid back by the companies out of the railway earnings, leaving upwards of 12,000,000*l.* to be paid out of excess profits over 5 per cent. The largest amount which, after deducting the railway receipts, has been paid in any one year was 1,500,000*l.* in 1863. The average amount paid by Government has been 707,500*l.* per annum.

102. The number of passengers last year was 15,066,530, of whom 14,401,000 were third class. In 1866-67 the total number was 13,746,354. The train miles run were 11,042,251 and 11,980,319 respectively.

103. While the steady advance which has hitherto been made in the revenue receipts has not been sustained during the past year for reasons which have been explained, and while cause has been given for disappointment at the failure of some of the works and at the delay in completing others, the general results are not unsatisfactory, and there is much to inspire hope for the future. The immense importance of these great works, as affecting the prosperity, security, and social improvement of the country is daily becoming more and more manifest, and their success as commercial undertakings is clearly shewn to be attainable by those to which care, economy, and skilful management are applied.

I have the honour to be, my Lord Duke,

Your Grace's very obedient humble servant,

JULAND DANVERS.

APPENDIX.

The following lists contain the names of the stations on the various lines, with the distances between each other :—

EAST INDIAN RAILWAY.

LIST of STATIONS on MAIN LINE and BRANCHES between HOWRAH or CALCUTTA and DELHI.

Distances from Howrah or Calcutta.		Stations.	Distances between Stations.	
Branches.	Main Line.		Main Line.	Branches.
		BENGAL DIVISION.		
Miles.	Miles.		Miles.	Miles.
—	—	HOWRAH	—	—
—	6	Bally	6	—
—	9	Connaghur	3	—
—	12	Serampore	3	—
—	15	Bidabatty	3	—
—	21	Chandernagore	6	—
—	24	Hoogly	3	—
—	29	Mugrah	5	—
—	38	Pundooa	9	—
—	44	Boinchee	6	—
—	51	Mymaree	7	—
—	59	Suktikur	8	—
—	67	BURDWAN	8	—
		Branch from Khanoo to Barrackur.		
80	—	Mankoor	—	23
97	—	Panaghur	—	7
121	—	RANNEEGUNJ	—	24
132	—	Assensole	—	11
138	—	Seeterampore	—	6
143	—	BARRACKUR	—	5
		Branch Line from Barrackur Branch.		
129	—	SINGHARRON	—	8
—	87	Gooshkarah	20	—
—	94	Bhedeah	7	—
—	99	Bulpore	5	—
—	111	Ahmoodpore	12	—
—	119	Syntheea	8	—
—	129	Mullarpoor	10	—
—	136	Rampore	7	—
—	145	Nulhâtee	9	—
—	156	Moorarece	11	—
—	163	Rajgowan	7	—
—	170	Pakowr	7	—
—	178	Beejapore	8	—
—	186	Bahawa	8	—
—	196	Teenpahar	10	—
—	195	TEENPAHAR JUNCTION	11	—
		Branch from Teenpahar to Rajmahal.		
202	—	RAJMAHAL	—	7

Distances from Howrah.		Stations—*continued.*	Distances between Stations.	
Branches.	Main Line.		Main Line.	Branches.
Miles.	Miles.		Miles.	Miles.
—	211	Maharajpore	15	—
—	219	Sahibgunj	8	—
—	233	Peerpoyntee	14	—
—	247	COLGONG	14	—
—	253	Ghogah	6	—
—	266	Bhagulpore	13	—
—	281	Sultangunge	15	—
—	292	Burriarpore	11	—
—	299	Jumalpore	7	—
		Branch from Junction to Monghyr.		
303	—	MONGHYR	—	6
—	305	Durrarah	6	—
—	316	Kudjra	11	—
—	326	Luckeserai	10	—
—	336	Burhea	10	—
—	347	Mokameh	11	—
—	363	Barrh	16	—
—	374	Bucktearpore	11	—
—	389	Futwah	15	—
—	396	PATNA	7	—
—	402	Bankipore	6	—
—	408	Dinapore	6	—
—	419	Bihta	11	—
—	433	ARRAH	14	—
—	446	Beehea	13	—
—	455	Rogonathpore	9	—
—	465	Domrooan	10	—
—	475	BUXAR	10	—
—	483	Bengal Division ends at River Kurrumnassa.	—	—
		NORTH-WESTERN PROVINCES DIVISION.		
—	488	Guhmer	13	—
—	498	Dildarnugger	10	—
—	507	Zumeniah	9	—
—	522	Sikuldeah	15	—
—	534	MOGUL SERAI JUNCTION	12	—
		Branch from Mogul Serai to Benares.		
540	—	BENARES	—	6
—	542	Ahrowra Road	8	—
—	554	CHUNAR	12	—
—	563	Puharee	9	—
—	573	MIRZAPORE	10	—
—	585	Garpoora	12	—
—	595	Nuwaee	10	—
—	605	Sirsa Road	10	—
—	618	Kirchuna	13	—
—	629	ALLAHABAD	11	—
		Branch from Allahabad to Fort.		
631½	—	ALLAHABAD FORT	—	2½
—	640	Monourie	11	—
—	652	Bhurwari	12	—
—	665	Serathee	13	—
—	680	Khaga	15	—
—	689	Berhampore	9	—
—	701	Futtehpore	12	—
—	711	Malwa	10	—
—	721	Mowhar	10	—
—	735	Sirsoul	14	—
—	748	CAWNPORE JUNCTION	13	—

Distances from Howrah.		Stations—*continued.*	Distances between Stations.	
Branches.	Main Line.		Main Line.	Branches.
Miles.	Miles.		Miles.	Miles.
		Branch from Junction to Cawnpore.		
749	—	CAWNPORE - - - -	—	1
—	762	Bhowpore - - -	14	—
—	775	Roora - - - -	13	—
—	787	Jheenjuk - - -	12	—
—	800	Puphoond - - - -	13	—
—	810	Utchulda - - -	10	—
—	822	Burtna - - - - -	12	—
—	835	Etawah - - - -	13	—
—	844	Jaswuntnugger - - -	9	—
—	856	Badan - - - -	12	—
—	869	Shekoabad - - -	13	—
—	881	Ferozrabad - - -	12	—
—	892	TOONDLA JUNCTION - -	11	—
		Branch from Toondla Junction to Agra.		
905	—	AGRA - - - - -	—	13
—	901	Burhun - - -	9	—
—	909	Jaleysur Road - - -	8	—
—	921	Hattrass Road - - -	12	—
—	931	Palee - - - -	10	—
—	940	ALLYGHUR - - -	9	—
—	954	Somna - - -	14	—
—	967	Khoorgah - - -	13	—
—	976	Chola - - - -	9	—
—	985	Secundrabad - - -	9	—
—	995	Dadree - - - -	10	—
—	1,006	Ghazeeoodemnugger - -	11	—
—	1,018	DELHI - - - -	12	—

JUBBULPORE LINE.

STATIONS and DISTANCES.

Distances from Allahabad.		Stations.	Distances between Stations.	
Branches.	Main Line.		Main Line.	Branches.
Miles.	Miles.		Miles.	Miles.
—	—	Allahabad - - -	—	—
—	5	Nynee - - - -	5	—
—	15	Jusra - - -	10	—
—	28	Seorajpore - - -	13	—
—	39	Burgurh - - - -	11	—
—	55	Oouchadeek - - -	16	—
—	62	Manickpore - - -	7	—
—	72	Markoondee - - -	10	—
—	86	Mugjowan - - -	14	—
—	99	Jetwar - - - -	13	—
—	112	SUTNA - - - -	13	—
—	124	Urcharah - - -	12	—
—	132	Myhere - - - -	8	—
—	149	Undarrah - - -	17	—
—	161	Jokhye - - - -	12	—
—	172	Kutnee - - -	11	—
—	189	Sleemanabad Road - -	17	—
—	204	Sehora Road - - -	15	—
—	219	Deeoree - - - -	15	—
—	228	JUBBULPORE - - -	9	—

CHORD LINE.

(Proposed Stations.)

Distances from Howrah.		Stations.	Distances between Stations.	
Branches.	Chord Line.		Chord Line.	Branches.
Miles.	Miles.		Miles.	Miles.
—	138	Seetarampore	—	—
—	147	Lahurtollah	9	—
—	156	Jamtarrah	9	—
—	168	Telkearee	12	—
—	183	Muddupore	15	—
		Branch to Kurhurballee.		
190	—	Jugdishpore	—	7
200	—	Mahishmon	—	10
206	—	Gerhidee	—	6
—	200	Jesseedee	17	—
—	216	Semintollah	16	—
—	228	Newadee	12	—
—	234	Ghidhour	6	—
—	244	Mulleypore	10	—
—	253	Munnunpore	9	—
—	260	Luckeserai	7	—

GREAT INDIAN PENINSULA RAILWAY.

STATIONS AND DISTANCES UPON THE OPENED LINES.

Distances from Bombay.		Stations.	Distances between Stations.	
Branches.	Main Line.		Main Line.	Branches.
Miles.	Miles.		Miles.	Miles.
—	—	Bombay (Boree Bunder)	—	—
—	2¼	Byculla	2¼	—
—	4	Chinchpoogly	1¾	—
—	5	Parel	1	—
—	5¾	Dadur	¾	—
8	—	Mahim	—	1½
—	9¼	Coorla	3½	—
—	17	Bhandoop	7¾	—
—	20½	Tanna	3½	—
—	26	Deewa	5½	—
—	33¼	CALLIAN JUNCTION	7¼	—
		(North-east Line.)		
—	40	Titwalla	6¾	—
—	49¼	Wassind	9¼	—
—	53¼	Shapoor	4	—
—	59	Atgaum	5¾	—
—	66¾	Khurdee	7¾	—
—	75	Kussara	8¼	—
—	84½	Egutpoora	9½	—
—	90¼	Ghotee	5¾	—
—	100	Nandoor	9¾	—
—	116	Deololee for Nassick	16	—
—	126	Kheirwadee	10	—
—	135½	Niphar	9½	—
—	146	Lasulgaum	10½	—
—	161½	Munmar	15½	—
—	177	Nandgaum	15½	—
—	190¾	Naidongree	13¾	—
—	203¾	Chalisgaum	13	—
—	215½	Kujgaum	11¾	—
—	230¼	Pachora	14¾	—

Distances from Bombay.		Stations—*continued.*	Distances between Stations.	
Branches.	Main Line.		Main Line.	Branches.
Miles.	Miles.		Miles.	Miles.
—	240	Myjee	9¾	—
—	247¼	Mussawud	7¼	—
—	260¼	Julgaum	13	—
—	267¾	Nusseerabad	7½	—
—	275¼	BHOSAWUL	7½	—
—	291	Nimbora	15¾	—
—	309¼	Boorhaunpoor	18¼	—
—	321	Chandnee	11¾	—
—	337⅛	Dongergaum	16½	—
—	352⅛	Khundwa	15	—
—	360½	Jowrah	8	—
—	373¾	Beerh	13¼	—
283¼	—	Warrengaum	—	8
294¼	—	Nargaum	—	11
306½	—	Mulkapoor	—	12¼
323⅛	—	Neemgaum and Nandoora	—	17
339¼	—	Sheagaum	—	15¾
362⅛	—	Akola	—	23¼
385¾	—	Moortizapoor	—	23¼
411¼	—	Budnaira	—	25½
429⅛	—	Chandoor	—	18¼
452¼	—	Poolgaum	—	22¾
470¾	—	Wurdah	—	18½
490⅛	—	Sindee	—	19¾
502⅛	—	Boree	—	12
519½	—	NAGPOOR	—	17
		(South-east Line.)		
—	33¼	Callian	—	—
—	41¾	Budlapoor	8½	—
—	53¼	Narel	11¾	—
—	62¼	Kurjut	8¾	—
71		Campoolee	—	8½
—	75½	Reversing Station	13	—
—	77¼	Khandalla	2	—
—	79¼	Lanowlee	2	—
—	89¼	Kurkulla	10	—
—	98¼	Tulligaum	9	—
—	108½	Chinchwud	10¼	—
—	115¼	Kirkee	6¾	—
—	119¼	Poona	4	—
—	136¾	Ooroolee	17½	—
—	152¾	Kheirgaum	16	—
—	160¼	Patus	7⅞	—
—	167	Dhond	6¾	—
—	183½	Decksal and Bheegwan	16½	—
—	195	Poomulwarree	11¾	—
—	212¾	Jehwoor	17¾	—
—	222¾	Keim	10	—
—	234	Barsee Road	11¾	—
—	243¾	Marheh	9¾	—
—	262¼	Mohol	18½	—
—	282¾	SHOLAPOOR	20½	—

MADRAS RAILWAY.

STATIONS and DISTANCES upon OPENED LINES.

Distances from Madras.		Stations.	Distances between Stations.	
Branches.	Main Line.		Main Line.	Branches.
Miles.	Miles.	SOUTH-WEST LINE.	Miles.	Miles.
—	—	Madras	—	—
—	3½	Perambore	3½	—
—	13	Avady	9½	—
—	17¾	Tinnanore	4¾	—
—	25¾	Trivellore	8	—
—	29½	Cudumbathoor	3¾	—

Distances from Madras.		Stations—*continued.*	Distances between Stations.	
Branches.	Main Line		Main Line.	Branches.
Miles.	Miles.		Miles.	Miles.
—	36	Chinnamapett	6½	—
—	42½	Arconum Junction	6½	—
—	55¾	Sholinghur	13¼	—
—	65	Arcot	9¼	—
—	73	Theruvellum	8	—
—	80½	Vellore	7½	—
—	88¼	Veerinjeepoorum	7¾	—
—	95¾	Gooriattum	7½	—
—	105½	Mailputty	9¾	—
—	112¾	Amboor	7¼	—
—	122¾	Vaniembady	10	—
—	132	Jollarpett Junction	9¼	—
154	—	Coopum	—	22
175½	—	Colar Road	—	21½
192¼	—	Malloor	—	16¾
204	—	Cadjoody	—	11¾
216½	—	Bangalore	—	12½
—	136¾	Tripatore	4¾	—
—	151¼	Samulputty	14½	—
—	166	Morapoor	14¾	—
—	180	Mullapooram	14	—
—	192¼	Shervaroy Hills	12¼	—
—	206¾	Salem	14½	—
—	219¾	McDonald's Choultry	13	—
—	230½	Sunkery Droog	10¾	—
—	243	Erode, junction with G. S. of I. Railway.	12½	—
—	252¼	Peraduray	9¼	—
—	266½	Wutkallee	14¼	—
—	275	Avenastry Road	8½	—
—	286	Somanoor	11	—
—	301¾	Cimnbatore	15¾	—
—	308	Muddikurry	6¼	—
—	316½	Walliar	8½	—
—	323½	Conjecode	7	—
—	332	Palghaut	8½	—
—	337¾	Purley	5¾	—
—	347	Luckady	9¼	—
—	351½	Wootapollium	4½	—
—	359½	Shoranoor	8	—
—	366¾	Puttamby	7¼	—
—	378¼	Cootipooram	11½	—
—	387½	Tiroor	9¼	—
—	392¾	Tanoor	5	—
—	397½	Perpengady	5	—
—	406¼	Beypoor	8¾	—
		NORTH-WEST LINE.		
—	—	Arconum Junction	—	—
—	50½	Tirutany	8	—
—	59¾	Naggery	9¼	—
—	69¼	Puttoor	9½	—
—	78	Poody	8¾	—
—	83¾	Tiruputty	5¾	—
—	97¾	Ballyputty	14	—
—	109	Coodoor	11¼	—
—	121¾	Reddipully	12¾	—
—	129¾	Rajampett	8	—
—	136¾	Nundalore	7	—
—	147	Woutimettah	10¼	—
—	162½	Cuddapah	15½	—
—	176	Camalapoor	13½	—
—	185¾	Yerragoontha	9¾	—
—	195¾	Moodanoor	10	—
—	210¼	Kondipuram	14½	—
—	227¼	Tadputri	17	—

BOMBAY and BARODA RAILWAY.

STATIONS AND DISTANCES.

No.	Distance in Miles from Bombay Churney Road.	Stations.	No.	Distance in Miles from Bombay Churney Road.	Stations.
1	—	Carnac Bunder.	25	134¼	Beleemora.
2	—	Churney Road.	26	137	Umulsar.
3	1¼	Bellasis Road.	27	146	Nowsaree.
4	1¼	Grant Road.	28	155½	Sucheen.
5	3¾	Parell.	29	164½	Surat.
6	4¾	Dadur Junction.	30	167	Amrolee.
7	5¼	Dadur.	31	173¼	Sion.
8	7	Mahim.	32	180¼	Keem.
9	8	Bandora.	33	189¼	Panolee.
10	13	Andaree.	34	195¾	Unclesur.
11	15½	Pahadee.	35	201	Broach.
12	20	Dysur.	36	208½	Chumargaum.
13	31	Bassein Road.	37	217¼	Palej.
14	36¼	Veraur.	38	226½	Meagaum.
15	55¼	Palghur.	39	233¾	Etola.
16	62¼	Boisur.	40	245¾	Baroda.
17	75¾	Dhanoo Road.	41	257½	Wassud.
18	82¾	Golwood.	42	267	Annund.
19	91¾	Sunjan.	43	279¼	Neriad.
20	98¾	Bheelar.	44	289½	Memoodabad.
21	105¾	Damaun Road.	45	296¾	Berajree.
22	115½	Pardee.	46	307¼	Ahmedabad.
23	122	Bulsar.	47	—	G. I. P. Stations.
24	127	Doongree.			

SCINDE RAILWAY.

STATIONS AND DISTANCES.

Stations.		Number of Miles.
From	To	
Keamaree - - - - -	Kurrachee - - - -	3¾
KURRACHEE (McLeod Road Station).	Frere Street Station - - -	2¼
	Mulleer - - - - -	12¼
	Dorbajee - - - -	34
	JOONGSHAIE - - - -	53
	Jeempeer - - - -	72
	Mayting - - - -	85½
	Bolari - - - - -	97
	KOTREE - - - - -	105¼
Total length of line, including Keamaree Branch, 100 miles.		

PUNJAUB RAILWAY.

STATIONS AND DISTANCES.

Stations		Number of Miles.
From	To	
Umritsur	Khassa	8
	Attaree	16
	Jelloo	22
	Meean Meer (L. & U.)	29
	Lahore	32
Lahore	Meean Meer (L. & M.)	36
	Khana	45
	Raiwind	58
	Chunga Munga	76
	Wanradharam	92
	Okarah	112
	Montgomery	135
	Hurruppa	148
	Cheechawutnee	161
	Chunnoo	182
	Khanawalla	209
	Yatteepoor	227
	Mooltan	240
Mooltan	Raj Ghat River Station	246

EASTERN BENGAL.

STATIONS AND DISTANCES.

Distance from Calcutta.	Intermediate Distance.	Stations.	Distance from Calcutta.	Intermediate Distance.	Stations.
Miles.	Miles.		Miles.	Miles.	
—	—	Calcutta.	51	5¾	Aurrunghatta.
4¼	4¼	Dum-Dum.	57½	6½	Buggoolah, W.G.
7	2¾	Bailgurriah.	65	7½	Kissengunge.
9¾	2¾	Sodepore.	69	4	Muttearee.
14	4¼	Barrackpore, W.	74½	5½	Ramnuggur.
16¾	2¾	Echapore.	77¾	3¼	Joyrampore.
18½	1¾	Samnuggur.	83½	5¾	Chooadangah, W.G.
23½	5	Nyehauttee.	89	5½	Moonsheegunge.
28	4½	Kanchraparah, W.G.	93¼	4¼	Allumdangah.
33	5	Mudunpore.	98½	5¼	Halsha.
38¼	5¼	Chogdah.	102¾	4½	Purodah.
45¼	7	Ranaghat.	112	9¼	Kooshtea.

GREAT SOUTHERN OF INDIA RAILWAY.

STATIONS AND DISTANCES UPON OPENED LINE.

Distance from Negapatam.	Stations.	Distances between Stations.
Miles.		Miles.
—	Negapatam	3
3	Sickle	4
7	Keevalore	7
14	Trivalore	4
18	Kulikery	7
25	Kordachary	5
30	Needamungalum	6
39	Ammapettah	3
36	Saliamungalum	10
49	Panjore	10
59	Boodalore	15
74	Peroovembore	8
82	Trichinopoly	9
91	Ellamanore	12
103	Kulitalay	6
109	Lalapettah	7
116	Cuttalay	11
127	Caroor	9
136	Poogalore	8
144	Cudumudy	12
156	Passoor	12
168	Erode	—

OUDE AND ROHILKUND RAILWAY.

STATIONS and DISTANCES upon opened LINE between Lucknow and Cawnpore (42 Miles).

Miles from Lucknow.	Stations.	Distances between Stations.
—	Lucknow	—
13¾	Harownee	13¾
23¾	Ajgaen	10
33¼	Oonao	9½
42	Cawnpore	8¾

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For Her Majesty's Stationery Office.

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REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1869-70.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

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FOR HER MAJESTY'S STATIONERY OFFICE.

1870.

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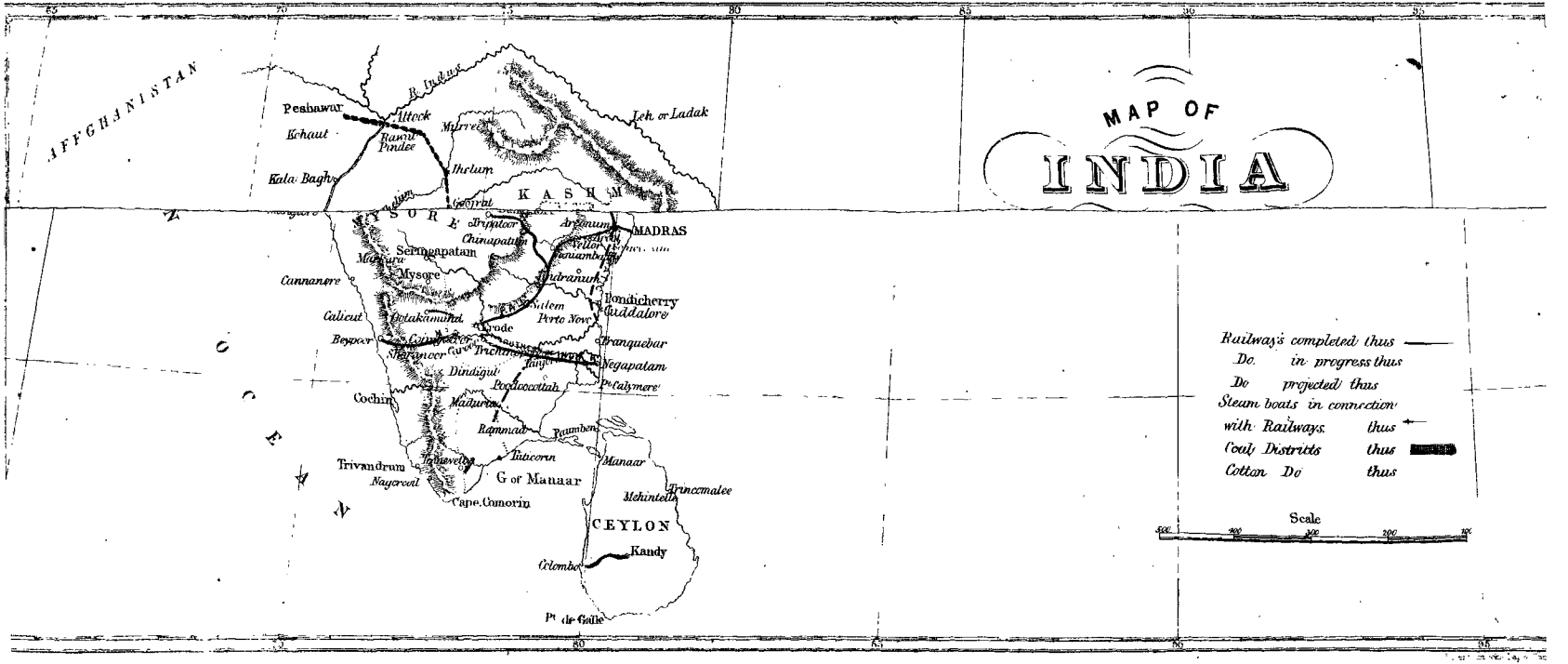
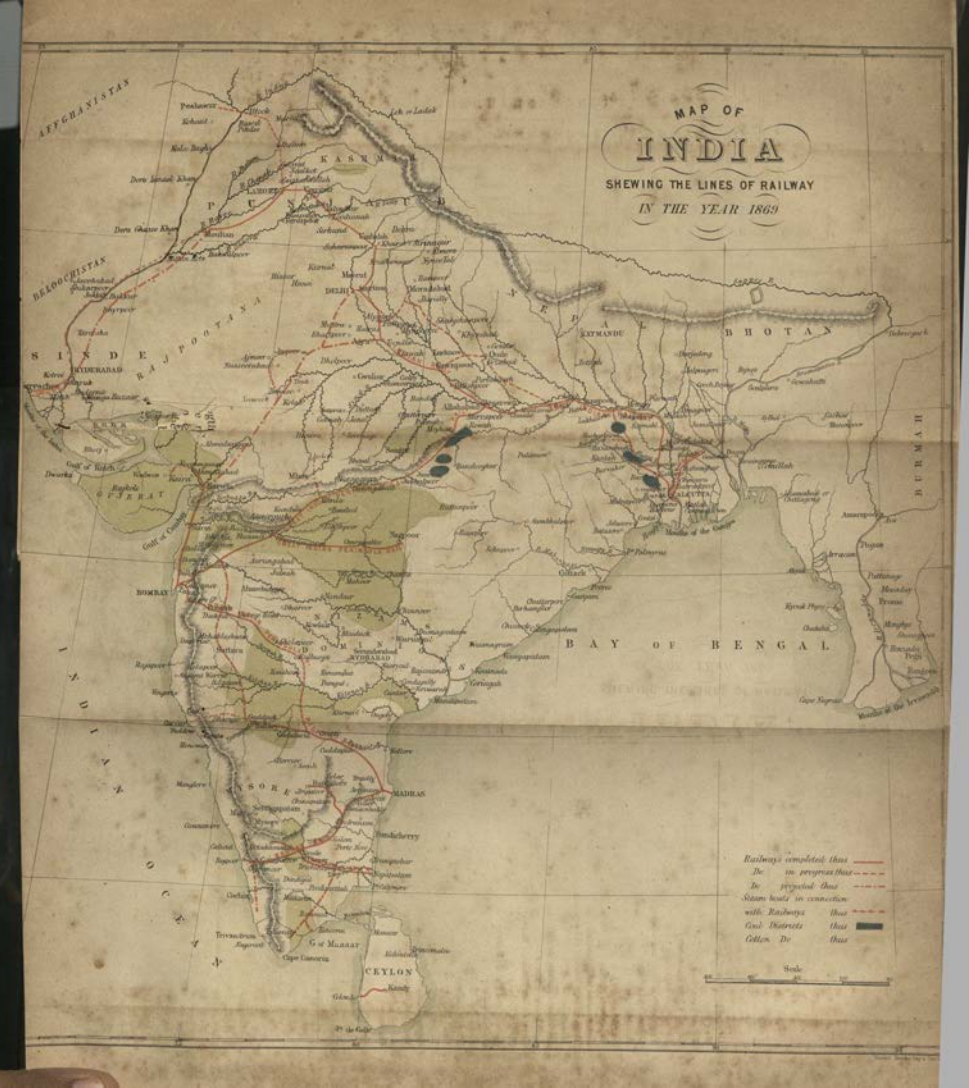

MAP OF
INDIA
AFFGHANISTAN
OCEAN
Peshawar
Kohaut
Kala Bagh
Attock
Rawul Pindee
Murree
Jhelum
R. Indus
Leh or Ladak
KASHMIR
MYSORE
Tripatoor
Chinapatam
Seringapatam
Mysore
Cannanore
Calicut
Beypoor
Cochin
Trivandrum
Nagercoil
Cape Comorin
G of Manaar
Madura
Rammad
Tuticorin
Paumben
Manaar
Trincomalee
Mehintelle
CEYLON
Kandy
Colombo
Pt de Galle
Salem
Porto Novo
Crode
Dindigul
Poodoocottah
Pt Calymere
Negapatam
Tranquebar
Cuddalore
Pondicherry
Indranum
Arcanum
MADRAS
Railways completed thus
Do. in progress thus
Do projected thus
Steam boats in connection with Railways thus
Coal Districts thus
Cotton Do thus
Scale
500
400
300
200
100


MAP OF
INDIA
SHEWING THE LINES OF RAILWAY
IN THE YEAR 1869
AFFGHANISTAN
BEAOOCHISTAN
KASHMIR
PUNJAUB
RAJPOOTANA
SINDE
HYDERABAD
BHOTAN
BURMAH
BOMBAY
BAY OF BENGAL
MADRAS
CEYLON
INDIAN OCEAN
Railways completed thus
Do in progress thus
Do projected thus
Steam boats in connection with Railways thus
Coal Districts thus
Cotton Do thus
Scale

REPORT.

To His Grace the DUKE OF ARGYLL, K.T., Secretary of State for India.

MY LORD DUKE, 20th May 1870.

I HAVE the honour to lay before your Grace my usual annual report on the progress made in the construction of, and on the results of working, the Railways in India.

2. For the last ten years these reports have contained accounts only of operations which have been conducted through the instrumentality of Companies acting under the control of Government; but now, I shall for the first time have to refer to lines which have been undertaken and executed through the direct agency of Government. The operations, however, under this head are at present very limited, the various projects which were mentioned in my last report as those which were to be retained in the hands of Government being with one or two exceptions still under investigation.

Completion of transpeninsula line between Bombay and Calcutta.

3. The most important event which has marked the history of Indian Railways during this year is the junction of the Great Indian Peninsula and the East Indian Railways at Jubbulpore, whereby the whole breadth of the Peninsula is spanned, and Bombay and Calcutta, as well as Bombay, Delhi, and Lahore, are brought into railway communication with each other. The East Indian Railway has been opened to Jubbulpore since 1867, but unforeseen delay occurred in the completion of the works of the Great Indian Peninsula Railway, and the long-desired junction of the two lines has been deferred in consequence. The works have lately been pushed on with great vigour and rapidity, and although there is still much to be done before the line can be considered thoroughly completed, it was sufficiently advanced to admit of the ceremony of opening being performed by the Duke of Edinburgh and the Viceroy on the 7th March last. The occasion gave rise to proceedings of much interest, in which the Governor of Bombay; the Chief Commissioner of the Central Provinces; Sir Salar Jung, the Minister of His Highness the Nizam; Maharajah Holkar; the Maharajah of Rewah; the Rajah of Myhere; and other high functionaries, took part. But as an account of them has reached your Grace through other channels it is unnecessary to give any details here. The line in question proceeds from Bombay up the Thull Ghât viâ Jubbulpore to Allahabad; thence it follows the valley of the Ganges to Calcutta. Before the end of the year a more direct route will be opened for the latter part of the line by the completion of the chord line of the East Indian Railway from Luckeserai viâ Raneegunge to Calcutta. The distance from Bombay to Calcutta by the present route is 1,470 miles. It will then be 1,400 miles. The journey occupies about 70 hours. The fares, as near as I can ascertain them, are 1st class about 14*l.* 2nd class 7*l.*, and 3rd class, 2*l.* 13*s.* By means of this line a saving of three or four days in the journey between England and Calcutta has during the past year been effected. No greater time is now occupied in reaching Calcutta from London than it took twenty years ago to get from one end of India to the other.

Additions to lines in 1869.

4. I have been giving prominence, however, to a proceeding that took place *after* the close of 1869, to which period this report chiefly relates. During that year 261 miles were added to the 4,020 open at the beginning. An addition of thirty (30) miles was made to the North-west Madras line, and of two hundred and thirty-one (231) miles to the Delhi. Since the end of the year a short branch of 8 miles, which has been constructed by the Government, extending

from Jhellum on the Great Indian Peninsula Railway to the Cotton mart of Khamgaon, and 25 miles more of the Delhi line have been opened, besides 69¾ miles, between Sholapoor and Goolburga, on the S.E. branch of the Great Indian Peninsula Railway, and the Jubbulpore line before mentioned. The short extension of the Baroda Railway across the Saburmuttee river, and 2 miles beyond, was also opened on the 1st January last. The whole length of Railway now open in India is 4,628 miles.

General progress.

5. Other works have been progressing and several lines are on the eve of completion. The chord line of the East Indian will, as already stated, be finished in the course of this year. The line between Madras and Bombay, with the exception of the bridge over the Kistna, should also be opened next cold season. The Delhi line will probably be completed. The Oude and Rohilkund Company will open their first section beyond Lucknow, viz., to Byram Ghât; and the extension of the Eastern Bengal Railway to Goalundo, the progress of which has been impeded by the damage inflicted on the Goraie and Chundna bridge works by the cyclone in June last, will it is expected be ready for opening in the course of this year. Progress has also been made on the Punjab State line, which with the exception of a few diversions is to occupy one half of the trunk road. The lines which form the system of railways for Oude and Rohilkund have now all been sanctioned and staked out, and the earthworks have been formed over many miles. The bridges also have been put in hand, and permanent way material taken to different parts of the line. The Bombay, Baroda and Central India and the Great Southern Railway Companies have made every preparation for carrying out with vigour the extensions committed to them; and the Carnatic Company, which has taken the place of the former Indian Tramway Company, is making the surveys for the extension of the line to Cuddalore, and is about to convert the narrow gauge line between Arconum and Conjeveram into a first-class railway, with the standard gauge of 5 feet 6 inches.

Length of lines sanctioned and opened.

6. Particulars as to the present and future length of the various sanctioned lines will be found in the following table:—

	Railway.	Length sanctioned.	Length opened during 1869.	Length opened since Dec. 1869.	Total Length opened.	Portion laid with Double Line.	Length remaining to be finished.
Guaranteed Lines.	East Indian - Main line	1,278	—	—	1,131¼	203	147
	East Indian - Jubbulpore line	225	—	—	225	—	—
	Great Indian Peninsula	1,272	—	311	1,184	256	88
	Madras - South-west line	522	—	—	492	—	30
	Madras - North-west line	340	30	—	215	—	125
	Bombay, Baroda, and Central India	384	—	3	310½	20	74
	Scinde	109	—	—	109	—	—
	Punjab	246	—	—	246	—	—
	Delhi	320	231	25	310	—	10
	Great Southern	378	—	—	168	—	210
	Eastern Bengal	159	—	—	114	—	45
	Oude and Rohilkund	672	—	—	42	—	630
	Carnatic	100	—	—	18	—	82
State Lines.	Calcutta and Canning	28	—	—	28	—	—
	Northern Punjab	173	—	—	—	—	173
	Khamgaon	8	—	8	8	—	—
	Oomrawuttee	7½	—	—	—	—	7½
Subsidised.	Nulhattee	27½	—	—	27½	—	—
	Total	6,249	261	347	4,628½	479	1,519½

7. The following table, which has been extracted from an interesting statistical statement prepared by Major E. C. T. Williams, R.E., Deputy Secretary to the

Government of India, shews the gradual progress which has been made in each year by each company since the commencement of operations in India :— Annual progress from commencement.

Railways.	Length of Line open at the end of Years															
	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1st Oct. 1869.
East Indian Railway (including Jubbulpore)	—	37½	120½	120½	120½	141	284½	367½	500½	853½	937	1,105½	1,129½	1,129½	1,353½	1,353½	1,353½
Great Indian Peninsula	21½	34½	50½	88½	88½	194½	245½	297½	437½	404½	553	585½	701½	815½	852	875½	875½
Madras - - -	—	—	—	65½	80½	95	95	136	207½	447	447	571	611	645	645	677½	707½
Bombay, Baroda, and Central India -	—	—	—	—	—	—	—	35	132	185	185	305½	305½	305½	305½	305½	305½
Scinde - - -	—	—	—	—	—	—	—	—	105½	105½	105½	105½	105½	108½	108½	108½	108½
Punjab - - -	—	—	—	—	—	—	—	—	—	32	45	45	253	253	246	246	246
Delhi - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	53	244½
Great Southern of India	—	—	—	—	—	—	—	—	42	79	79	79	79	127	144	168	168
Eastern Bengal -	—	—	—	—	—	—	—	—	—	110	110	110	110	110	113½	113½	113½
Oude and Rohilkund -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	42	42
Nulhattee & Azimgunge	—	—	—	—	—	—	—	—	—	—	27½	27½	27½	27½	27½	27½	27½
Carnatic - - -	—	—	—	—	—	—	—	—	—	—	—	—	18½	18½	18½	18½	18½
Calcutta & South-eastern	—	—	—	—	—	—	—	—	—	15	28	28	28	28	28	28	28
Total -	21½	72	171	274½	289½	430½	624½	836½	1,531½	2,351½	2,516½	2,962½	3,268½	3,563	3,937½	4,017½	4,238½

8. Some of the lines embraced in the above lists have been sanctioned during the past year and consist of extensions of, or branches to, railways in the hands of existing Companies. In making arrangements with them for the execution of the new works certain terms in the original contracts were modified. A more definite power of control was, for example, given to the Government over the operations of the Companies' officers in their preparation of the plans and estimates and while the lines were in course of construction; and it was arranged that any excess profits over 5 per cent. were to be equally divided between the Government and the Companies. It will be recollected that, as the clause relating to profits originally stood, it was provided that in the event of the amount which had been advanced by Government for the guaranteed interest being repaid with interest, the whole of the net profits should go to the shareholders. The Government now arrange to keep no account of guaranteed interest as against the Companies, and to cancel the past debt, which was accumulating at a rate to leave little hope of the ability of the Companies to pay it off within the terms of their leases. The Companies which have agreed to this arrangement up to the present time are the Great Indian Peninsula; the Madras; the Bombay, Baroda, and Central India; the Scinde, Punjab, and Delhi; the Great Southern of India; and the Carnatic. The first three have been informed that the Government will waive its right to purchase their lines at the expiration of the first 25 years of their leases, which occurs, in the case of the Great Indian, in 1874; of the Madras, and Bombay and Baroda in 1880. Modified terms of new contracts with Companies.

9. With regard to lines in the hands of Government and which are termed "State Railways," one, the Calcutta and Canning Town, was surrendered to the Government by the Company which constructed it; another, the Jhellum and Khamgaon, was executed under the directions of Government officers in the space of nine months, and is being worked by the Great Indian Peninsula Railway Company; the third, viz., the Lahore and Peshawur line, is being laid out and constructed under the superintendence of Mr. Lee Smith. The principle followed in the construction of this line is to commence it on a most economical scale and to make improvements gradually as the traffic justifies fresh outlay and calls for greater conveniences. The way is to be single, the works substantial and suited for a speed of 15 miles an hour, and all adjuncts and buildings are to be of the most simple and inexpensive kind. The general rules which have been laid down for the guidance of officers engaged in the railway operations of Government are given in the Appendix. State lines.

10. The lines which are now being surveyed by the Government in view to their early commencement are, 1st, from Delhi in a southerly direction to Rewaree, with a branch to Furruknuggur, where valuable brine springs exist; 2nd, from Agra to Sambhur salt lake, and on to Ajmeer, forming a junction at some point to be determined on with the above-mentioned line from Delhi; 3rd, from Mooltan by the valley of the Indus to Rohree; 4th, from Koolburga to Hyderabad; State lines under survey.

State railways.

5th, from Karwar to Hooblee. No estimates have yet been made of the cost of the lines to be undertaken by Government, nor has it been considered necessary to make any special provision for the raising and issuing of money for the purpose. In the Loan Bill of last Session it was at first proposed that 4,000,000*l.* should be raised for "the purpose of the construction of Railways in India, and "for no other purpose whatsoever," but the clause was expunged from the Bill before it passed the House of Commons.

Expenditure on State railways.

11. In order to establish a proper system of accounts at starting, rules have been laid down for the guidance of all those who are engaged on the State railways. The accounts are to be kept distinct from those on other public works. A separate account will be kept for each railway. The expenditure is to be divided under 18 different heads. The rules are very complete and seem calculated to ensure method and accuracy in the preparation and rendering of periodical statements, as well as to provide checks against carelessness and irregularity in the conduct of the works.

Goolburga to Hyderabad line.

12. The line between Goolburga and Hyderabad has just been mentioned as a State line, and in one sense a State line it will be, although not paid for by the Government. The gratifying announcement has lately been made by the Government of India that Sir Salar Jung, the chief minister of His Highness the Nizam, has engaged to provide a million of capital for the construction of this line, which is to be executed and managed by the Indian Government for the Nizam. The Government have at the same time communicated the satisfactory intelligence that His Highness the Maharajah Holkar has also arranged to advance a million sterling for the branch to Indore from the Great Indian Peninsula Railway, the British Government allowing him 4½ per cent. interest upon the loan, and dividing with him rateably on the share of the outlay contributed by him the profits over and above that rate.

Branch line to Indore.

Light railways suitable in certain places.

13. It is a question worthy of serious consideration whether some of the future lines, which will not form part of the system of main trunk lines, but which will be branches and feeders to them, may not advantageously be constructed of a much narrower gauge and be altogether of a lighter description than the existing lines. Hilly and mountainous districts and places requiring railway communication, but where the traffic would be comparatively small, may be admirably served, it is thought, by a light 2 feet 6 inch or a 3 feet line, which should be made for a third or a quarter less than one with the standard gauge. And if the results exhibited on the Portmadoc and Festiniog Railway in Wales, with a gauge of 2 feet, are borne out by more extended investigation and by further practical tests, the double bogie engine, constructed on the plan designed by Mr. Fairlie, seems likely to assist in promoting the introduction of railways into places where it has hitherto been considered to be out of the question to take them in consequence of the expense. For by combining the narrow gauge with the double bogie locomotive it appears that a line may be taken up steep gradients and round sharp curves at a comparatively small cost, and worked with ease and economy. The experiments in Wales above referred to, were witnessed by a Commission of Russian Noblemen and Engineers, headed by the Count Bobrinskoy; by a deputation from this office, consisting of Major-General Sir William Baker, K.C.B., Mr. William T. Thornton, the Secretary in the Public Works Department, and myself; by Captain H. W. Tyler, of the Board of Trade, and by several engineers from Sweden, Germany, and this country. The Duke of Sutherland also accompanied the expedition, and took a prominent part in the proceedings. The results have already been furnished to your Grace, and have been forwarded to the Government of India. The report of Captain Tyler to the Board of Trade is given in the Appendix.

Festiniog Railway.

14. An interesting account of the Festiniog 2-feet Railway, containing full particulars both with respect to its construction and working, has been written by Mr. C. E. Spooner, the Engineer and Manager of the line. Copies of this paper have been sent out for the information of the authorities in India. Mr. Spooner is an advocate for light and narrow gauge railways, and he gives the following summary of the advantages of the system, which is doubtless applicable to certain situations and circumstances, though not to all:—

1st. The large comparative saving in first construction.
2nd. The large proportion of paying load to non-paying or tare weight of train.
3rd. The great reduction in wear and tear of permanent way, through advantage gained by light rolling stock.

4th. Saving in reduced wear and tear of wheel tyres from reduced weight on each wheel.
5th. Large proportionate increased power of locomotives.
6th. Proportionate increased velocities gained by the light system.
7th. Greater economy in working traffic.
8th. Comparative increase in capabilities of traffic.
9th. Great advantages gained by application of the Fairlie system of locomotive engines in concentrated power, equalisation of adhesion of all the wheels to the rails, economy from reduced friction on wheel flanges, reduction of wear and tear to the permanent way, great saving in fuel, and economy in wages for given power secured.

Major Taylor's reports on foreign railways.

15. Another investigation, which is likely to be of service to the cause of Indian Railways, was made during the past year by Major F. S. Taylor, R.E., the Consulting Engineer to the Government of Bengal. When in this country he was commissioned to visit America, Belgium, and France, and to examine and report on the system of railway construction and management pursued in those countries. The results of his observations and inquiries have been given to the Government, and go to show that in several respects India may learn something from Europe and America. With the view of bringing the experience of the latter to bear practically upon the railway operations that are now going on in India, two practised engineers from America have been engaged in the service of the Government.

Floods in 1869.

16. The year 1869 was not free from floods which either damaged or destroyed certain railway works. The Mulleer viaduct on the Scinde line, which was carried away in 1866, was again swept down by the violence of the torrent. The scour in the bed of the Goraie river, over which the Eastern Bengal Railway is carried, was, during the cyclone of June, so great as to undermine two iron cylinders of one of the piers, which fell over in consequence. The cylinders, which were 40 feet in length, and weighed, including brick work, upwards of 100 tons, had been sunk 10 feet into the soil. One of them was recovered shortly after the accident, but all efforts to recover the other have been unsuccessful.

Bridge over the Hooghly at Calcutta.

17. It was mentioned in last year's report that it had been determined to construct an ordinary bridge over the Hooghly at Calcutta so as to make the Howrah terminus of the East Indian Railway accessible to the Calcutta side of the river. By an ordinary bridge was understood a permanent one with a superstructure of iron. Your Grace has however determined, upon the recommendation of the Government of India, that a pontoon bridge, which will be of much less cost, shall be constructed.

PROCEEDINGS IN THIS COUNTRY.

Materials for construction.

18. The materials sent from this country during the year have consisted principally of rails and sleepers for the Punjab Northern State Railway and the Oude and Rohilkund Railway, and of iron girders for the bridges connected with those lines. The prices paid have been rather below the average. The stores despatched by the other companies have been chiefly for purposes of maintenance and working. The quantity annually required for those objects has now become very large. The fuel alone at present provided is considerable. Last year it was not so much as usual, in consequence of the supplies from the Abyssinian expedition coming into use. Coal and coke to the amount of 45,530 tons were sent out, and cost, on arrival, 97,849*l*. Great hopes are, however, now entertained that fuel for lines in Central India, if not for Madras and Bombay, will be obtained from the Nerbudda coal mines and from some recently discovered beds near Chanda, about 80 miles south of Nagpore. If these hopes are fulfilled, a considerable reduction would take place in the quantity exported from this country to India. The rails recently supplied have been lighter than those which were sent in the first instance for the main lines. Formerly they were 84 lbs., now they are 60 lbs. to the yard; and this again may be reduced if steel is used. Steel rails of 45 lbs. have been recommended by Mr. C. D. Fox, the consulting engineer to the Carnatic Railway Company, as being adapted for maximum rolling loads of four tons per wheel. He states that they have been used with satisfactory results on lines in the United States and Canada, and are being adopted largely in South America. It must be admitted that the present price of steel is a temptation to use them. Rails which were formerly 20*l*. a ton may now be had for 10*l*. or 11*l*. a ton, which is only from 2*l*. to 3*l*. in excess of iron. If the saving of freight and the superiority of the metal is taken into account, a line may be laid with light

For working and maintenance.

Rails.

steel rails at the same cost as ordinary iron rails. The following table shews the amount shipped during the year 1869:—

Shipments during the year 1869.

SHIPPING OPERATIONS DURING THE YEAR 1869.

Railway Company.	Number of Ships employed in 1869.	Amount of Goods shipped in 1869.	Value of Goods shipped in 1869.	Amount paid for Freight and Insurance in 1869.	Rate of Freight and Insurance per Ton.	
		Tons.	£	£	To	s.
East Indian	44	24,538	176,221	40,682	Calcutta	33·10
Great Indian Peninsula	113	99,995	522,497	183,310	Bombay	36·
Madras	62	18,862	145,758	25,763	Madras	27·80
Bombay, Baroda, and Central India	28	7,951	41,641	14,821	Bombay	37·27
Scinde	8	99	1,807	273	Kurrachee	54·14
Punjab	20	1,113	22,913	3,121	„	56·
Indus Flotilla	9	305	4,461	726	„	47·70
Delhi	27	4,262	103,502	13,130	„	60·
Great Southern of India	5	2,500	16,610	4,103	Negapatam	32·40
Eastern Bengal	11	2,938	26,074	4,990	Calcutta	34·
Oude and Rohilkund	115	47,278	355,670	58,785	Calcutta	22·75
Carnatic	6	9	214	20	Madras	23·77
State Railways	7	1,900	15,416	2,250	Calcutta	23·68
Total	455	211,750	1,432,784	351,974		

19. One ship was wrecked during the year with a cargo of goods belonging to the Great Indian Peninsula Railway Company, valued at 7,673*l*. It was fully insured.

Shipments to present date.

20. The shipments from the commencement of operations are given in the following statement:—

Year.	No. of Ships.	Ships lost.	Amount of Goods shipped.	Value of Goods shipped.
			Tons.	£
Up to end of 1860	2,605	39	2,094,686	10,431,976
In 1861	407	—	182,621	1,669,443
„ 1862	280	1	138,013	1,487,582
„ 1863	279	2	166,840	1,285,464
„ 1864	233	—	102,318	1,018,164
„ 1865	442	2	199,157	1,729,543
„ 1866	581	7	312,227	2,527,757
„ 1867	512	5	333,329	3,052,652
„ 1868	364	3	188,858	1,849,554
„ 1869	455	1	211,750	1,432,784
Total	6,158	60	3,929,799	26,484,919

Locomotive and rolling stock, 1869.

21. The following table shews what was the locomotive and rolling stock on the 1st January 1870:—

Railway.	Locomotives.			Passenger Carriages.		Trucks and Wagons.		Total Number of Vehicles on 31st December 1869.
	Former Number.	Added in 1869.	Total Number, 31st Dec. 1869.	Former Number.	Added in 1869.	Former Number.	Added in 1869.	
East Indian	514	23	537	900	1	6,430	132	7,463
Great Indian Peninsula	236	28	264	991	84	5,702	194	6,971
Madras	106	3	109	277	2	2,980	172	3,431
Bombay, Baroda, & Central India	63	—	63	181	2	2,874	—	3,057
Scinde	25	—	25	64	—	671	—	735
Punjab	38	—	38	116	—	669	—	785
Delhi	38	18	56	139	65	663	386	1,253
Great Southern of India	15	2	17	41	—	215	55	311
Eastern Bengal	43	—	43	100	24	563	77	764
Oude and Rohilkund	4	2	6	28	5	78	11	122
Carnatic	4	—	4	29	8	43	—	80
Calcutta and South-eastern	12	—	12	56	—	478	—	534
Total	1,098	76	1,174	2,922	191	21,366	1,027	25,506

22. The following statement shews that the number of persons who hold shares and debentures of Indian railways amounts to 56,417, being 2,918 in excess of last year:— Shareholders in 1870.

Railway.	Number of Shareholders on 31st December 1869.						Number of Debenture Holders.	Total Number of Proprietors on the 31st December 1869.
	Registered in England.			In India.				
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.		
East Indian - - -	5,879	7,845	13,724	203	142	345	2,944	17,013
Great Indian Peninsula -	4,676	6,477	11,153	71	103	174	1,732*	13,227
Madras - - -	2,540	3,696	6,236	—	—	—	840	7,076
Bombay, Baroda, and Central India - -	2,029	3,356	5,385	14	69	83	1,002	6,470
Scinde - - -	640	1,050	1,690	15	3	18	140	1,848
Punjab - - -	676	1,085	1,761	19	2	21	120	1,902
Delhi - - -	1,484	2,316	3,800	45	6	51	—	3,851
Indus Flotilla - -	79	203	282	—	—	—	50	332
Great Southern of India	425	602	1,027	2	7	9	110	1,146
Eastern Bengal - -	641	998	1,639	22	23	45	444	2,128
Oude and Rohilkund -	516	559	1,075	11	20	31	74	1,180
Carnatic - -	28	185	213	12	19	31	—	244
Total - -	19,613	28,372	47,985	414	394	808	7,624	56,417

* Including 168 holders of debenture stock.

EUROPEAN STAFF.

23. It will be seen by the following table, which is again incomplete in consequence of the absence of returns from Bombay, that the number of Europeans and East Indians and natives employed on the lines in Bengal and Madras, on the 1st October last was 3,221 of the two former, and 35,422 of the latter. Thus nearly 10 per cent. were Europeans. One of the chief expenses connected with the working of railways in India is the high cost of European agency, and the time should now have arrived when the result of the instruction given to natives and Eurasians in the mechanical departments of a railway should be shewn. On the Madras Railway the system of apprenticing Indian-born youths as firemen, engine drivers, and mechanical workmen in the locomotive shops has succeeded admirably, and the aim of all should be gradually to allow native to take the place of highly paid European skill and labour. A certain proportion of Europeans will probably always be required, but they should be employed more in the positions of foremen and supervisors. To give an idea of the large amount earned by European drivers in India, I may mention that, while in England the maximum pay of a driver is 150*l.* a year, in India it has, by means of overtime earnings, reached 480*l.* a year. In England the average is from 110*l.* to 120*l.*; in India from 260*l.* to 280*l.* The actual charge in India of mechanical and skilled labour, is $5\frac{3}{4}d.$ per train mile run as against $1\frac{3}{4}d.$ in England. Taking into account the passages of the Europeans, their furlough pay and failures from sickness and intemperance,* the charge will be in the proportion of three in India to one in England. The number of miles run by trains last year in India was upwards of 12,000,000. If therefore the mileage rate could be reduced by one-third, so as to make it double that of English lines, it would produce a saving of 250,000*l.* a year. Staff. European officers and men. Native labour.

24. There is no reason also why the more educated class of natives and Eurasians

* On one line alone 25 men were discharged for drunkenness during the past year, and several lost their lives from the same cause.

should not fill the superior positions of Engineers, and Assistants in the Traffic and Locomotive Departments. This has already been done, I believe, on the Madras Railway.

PERSONS EMPLOYED ON LINES

on the 1st October 1869.

Railway.	Agent's Department, including Medical and Barrack Departments.			Account Department.			Audit Department.			Printing and Stationery Department.			Stores Department.			Traffic Department, including Steam Ferry.			Engineer's Department.			Carriage and Wagon Departments.			Locomotive Department.			Telegraph Department.			Grand Total.			No. of Miles open.	No. of Stations.
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.		
East Indian	31	177	208	21	391	412	32	396	428	10	312	322	61	1,117	1,178	527	4,348	4,875	100	6,437	6,537	124	3,833	3,957	854	2,382	3,236	49	1038	1087	1,809	20,431	22,240	1,354	130
Eastern Bengal	8	52	60	3	68	71	1	22	23	—	16	16	6	31	37	62	946	1,008	54	2,091	2,145	5	168	173	44	367	411	3	94	97	186	3,855	4,041	113	24
Calcutta & South Eastern (State)	5	1	6	1	5	6	—	1	1	—	—	—	1	13	14	5	76	81	5	160	165	—	6	6	5	21	26	—	12	12	22	295	317	28	8
Oude and Rohilkund.	18	31	47	2	15	17	5	43	48	8	23	31	—	—	—	7	140	147	3	69	72	—	—	—	27	375	402	2	17	19	70	713	783	42	5
Punjab	20	40	60	26	45	71	17	27	44	1	124	125	15	293	308	101	848	949	44	112	156	12	340	352	106	542	648	45	84	129	337	2,455	2,842	433	38
Delhi																																			
Madras	16	31	47	4	91	95	10	98	108	—	—	—	13	102	115	147	1,371	1,518	63	2,754	2,817	—	—	—	300	1,823	2,123	27	130	157	640	6,400	7,040	707	68
Great Southern of India.	18	91	109	—	—	—	—	—	—	—	—	—	—	—	—	19	263	282	13	695	708	—	—	—	51	136	187	—	—	—	101	1,185	1,286	168	22
Carnatic	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	20	20	3	58	61	—	—	—	3	9	12	—	—	—	6	88	94	19	4
Total	114	423	537	57	615	672	65	587	652	19	475	494	96	1,557	1,653	868	8,012	8,880	285	12,376	12,661	141	4,347	4,488	1,450	5,655	7,105	128	1,375	1,501	3,221	35,422	38,643	2,864	296

ACCIDENTS.

Accidents.

25. The list of casualties for the past year is a heavy one. Two accidents alone occasioned the death of 30 passengers and injury to 49 more. One was that which occurred at the reversing station of the Bhore ghât incline on the 26th January 1869, and which was described in the last report. The other took place at Etola, on the Bombay and Baroda line, on the 28th June. It was caused by the train running on a buffalo that had strayed on the line. The animal was struck by the cow-catcher, but not being full grown was thrown down, instead of being tossed off the line, and was drawn under the train. Two double-storied 3rd class carriages were smashed, 11 passengers were killed, and seven hurt. The result of investigation into the causes of the accident, was that "the accident was "due mainly, to the inefficient state of the fencing which allowed the buffalo "to stray on the line, and to the insufficiency of the cow-catcher to do the work "for which it was designed."

26. The following tables, which have been compiled in India, furnish the number and nature of all the accidents that have occurred during the past and previous years. The number of passengers carried in 1869 is put down at 16,513,037. Out of these 31 or 1·87 per million lost their lives from causes beyond their control; and 4·78 per million were in like manner injured. Besides these, 17 were killed, and 13 injured through their own fault or incaution. With regard to the servants of the companies 109 were killed, out of whom eight met their deaths from causes beyond their control; trespassers to the number of 48 were also run over and killed. In addition to the deaths here recorded another remarkable list is given of persons who have died while travelling, or at stations when starting for their journey, or at the end of it. No less than 132 passengers were thus, during the half year, found either dead or dying. The most common cause ascribed is cholera. Heat apoplexy also took off several; chronic dysentery, fever, and asthma, others, but many deaths are attributed to "natural causes." It is possible that the fatigue of travelling and the heat may have accelerated death in some cases, but no complaint is made of overcrowding, and in all probability most of the sufferers started on their journey in a weak feeble state, some perhaps in the hope of reaching their homes or a sacred river or shrine and dying there.

TABLE No. I.

ABSTRACT of the NUMBER and NATURE of the ACCIDENTS and of the Injuries to Life and Limb which have occurred on all Railways open for Traffic in India during the Year 1869.

Presidency.	Mean Mileage open.	Railways.		Classification of Accidents to Trains, &c. — Main Heads. I. Collisions.	II. Getting off proper Line.	III. Fire.	IV. Running over Cattle.	V. Other Causes.	Total.	Passengers. From Causes beyond their own Control. Killed.	Injured.	From their own Misconduct or want of caution. Killed.	Injured.	Servants of Companies or of Contractors. From Causes beyond their own Control. Killed.	Injured.	From their own Misconduct or want of caution. Killed.	Injured.	Other Persons. Whilst crossing at Level Crossings. Killed.	Injured.	Whilst trespassing (including Suicides). Killed.	Injured.	Miscellaneous. Killed.	Injured.	Total Persons of all Classes. Killed.	Injured.	Killed and Injured.
Bengal	1,354	East Indian	1869	33	9	—	30	4	76	1	23	13	10	2	24	39	46	3	2	33	10	5	1	96	116	212
	1,345		1868	37	14	1	2	3	57	—	32	5	13	4	32	54	83	1	3	24	4	6	4	94	171	265
Ditto	113	Eastern Bengal	1869	—	2	—	—	1	3	—	—	1	—	—	—	3	3	—	—	2	—	—	—	6	3	9
	113		1868	1	—	—	—	—	1	14	6	—	—	1	—	3	1	—	—	1	—	—	—	19	7	26
Ditto	28	Calcutta and South-eastern.	1869	—	—	1	1	1	3	—	—	—	—	—	—	1	—	—	—	1	—	—	—	1	—	1
	29		1868	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ditto	42	Oude and Rohilkund	1869	—	4	20	6	3	33	—	—	—	—	—	1	2	6	—	—	—	—	—	—	2	7	9
	42		1868	—	7	13	—	—	20	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1
Ditto	27	Nulhattee and Azimgunge.	1869	—	3	1	1	1	6	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	1
	27		1868	—	—	—	—	—	—	—	—	—	—	(No return received.)												
Ditto	246	Punjab	1869	2	2	3	—	1	13	—	—	—	1	1	—	1	—	—	—	1	—	—	—	3	1	4
	246		1868	1	—	—	—	—	1	—	—	—	—	—	—	2	1	—	—	—	—	—	—	2	1	3
Ditto	195	Delhi	1869	4	4	7	—	3	18	—	—	—	1	3	5	9	2	1	—	2	—	—	—	15	5	23
	53		1868	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Madras	689	Madras	1869	1	9	2	34	4	50	—	—	—	1	—	—	10	10	1	—	1	—	—	—	12	11	23
	656		1868	—	2	10	—	1	13	—	—	2	4	—	1	8	7	1	—	6	—	—	—	17	12	29
Ditto	168	Great Southern of India.	1869	—	—	—	41	—	41	—	—	—	—	—	—	—	—	1	—	—	2	—	—	1	2	3
	168		1868	—	1	1	1	—	3	1	4	—	—	—	—	1	3	—	—	—	1	—	—	2	8	10
Ditto	19	Conjeveram Tramway	1869	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19		1868	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bombay	872	Great Indian Peninsula	1869	31	94	11	25	22	183	19	43	1	—	2	3	25	32	—	—	7	2	—	2	54	82	136
	872		1868	20	71	2	6	14	113	—	—	2	3	5	14	23	32	1	—	12	5	2	1	45	55	100
Ditto	308	Bombay, Baroda, and Central India.	1869	6	16	—	106	3	131	11	13	1	—	—	1	12	10	—	—	1	1	—	—	25	25	50
	306		1868	3	7	—	17	—	27	1	—	—	1	—	2	9	10	—	—	2	2	1	—	13	15	28
Ditto	109	Scinde	1869	1	6	2	3	2	14	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	3	3
	109		1868	2	2	—	8	12	24	—	—	—	—	—	1	—	2	—	—	—	1	—	—	—	4	4
India	4,170		1869	78	149	52	248	45	572	31	79	17	13	8	34	101	112	6	2	48	15	5	3	216	258	474
	3,958		1868	64	104	27	34	30	259	16	42	19	22	10	50	100	139	3	3	45	13	9	5	192	274	466

TABLE No. II.—NUMERICAL ABSTRACT of ACCIDENTS of all Classes on all Railways open for Traffic in India during the Year 1869.

	BENGAL, NORTH-WESTERN PROVINCES, OUDE AND PUNJAB.														MADRAS.						BOMBAY.						Total.		
	E. Indian.		E. Bengal.		C. & S. E.		O. & R.		N. & A.		Punjab.		Delhi.		Madras.		G. S. OF I.		Conjeveram Tramway.		G. I. P.		B. B. & C. I.		Scinde.				
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed & Injured.
PASSENGERS.																													
From causes beyond their own control, viz.:—																													
From accidents to trains	1	23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19	43	11	13	—	—	31	79	110
From other causes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1	23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19	43	11	13	—	—	31	79	110
Per million of passengers	0·19	4·53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6·24	14·13	5·94	7·02	—	—	1·88	4·78	6·66
From their own misconduct or incaution	13	10	1	—	—	—	—	—	1	—	—	1	—	1	—	1	—	—	—	—	1	—	1	—	—	—	17	13	30
Per million of passengers	2·56	1·97	0·77	—	—	—	—	—	12·30	—	—	1·50	—	1·41	—	0·46	—	—	—	—	0·33	—	0·54	—	—	—	1·03	0·78	1·81
Total from all causes	14	33	1	—	—	—	—	—	1	—	—	1	—	1	—	1	—	—	—	—	20	43	12	13	—	—	48	92	140
SERVANTS OF COMPANIES OR OF CONTRACTORS.																													
From causes beyond their own control	2	24	—	—	—	—	—	1	—	—	1	—	3	5	—	—	—	—	—	—	2	3	—	1	—	—	8	34	42
From their own misconduct or incaution	39	46	3	3	—	—	2	6	—	—	1	—	9	2	10	10	—	—	—	—	25	32	12	10	—	3	101	112	213
Total from all causes	41	70	3	3	—	—	2	7	—	—	2	—	12	7	10	10	—	—	—	—	27	35	12	11	—	3	109	146	255
OTHER PERSONS.																													
Crossing at level crossings	3	2	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	—	—	—	—	—	—	—	—	—	6	2	8
Trespassers, including suicide	33	10	2	—	1	—	—	—	—	—	1	—	2	—	1	—	—	2	—	—	7	2	1	1	—	—	48	15	63
Miscellaneous	5	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	5	3	8
Total from all causes	41	13	2	—	1	—	—	—	—	—	1	—	3	—	2	—	1	2	—	—	7	4	1	1	—	—	59	20	79
Grand total of all classes from all causes	96	116	6	3	1	—	2	7	1	—	3	1	15	8	12	11	1	2	—	—	54	82	25	25	—	3	216	258	474
Mean length of railway open during the year (miles)	1,354		113		28		42		27		246		271		689		168		19		873		308		109				4,170
Number of passengers carried	5,073,377		1,294,976		248,837		347,738		81,301		668,165		711,652		2,166,158		826,285		102,187		3,042,250		1,851,282		98,829				16,513,037
Train mileage (goods and passengers)	6,504,856		365,336		31,916		65,942		22,884		295,120		453,333		1,868,590		312,901		30,300		2,836,760		794,960		120,483				13,703,381

TABLE No. III.

Shewing the TOTAL NUMBER of ACCIDENTS to PERSONS of all kinds, and to TRAINS, &c., on all RAILWAYS open for TRAFFIC in each Presidency of India, during the Year 1869.

Presidencies.		Mean Length of Railway open.	Total Number of Train Miles.	Train Miles per Mile open.	Total Number of Accidents to Trains, &c., of all kinds.	Total Number of Passengers carried.	Average Number of Passengers per Mile opened.	Passengers.		Servants.				Trespassers, &c.		Total.		
								Killed.	Injured.	Beyond own Control.		Within own Control.		Killed.	Injured.	Killed.	Injured.	Killed and Injured.
										Killed.	Injured.	Killed.	Injured.					
Bengal	1869*	2,005	7,739,387	3,860	152	8,426,046	4,202	16	35	6	30	54	57	48	13	124	135	259
	1868†	1,828	5,781,253	3,162	79	7,931,288	4,338	19	52	5	32	59	85	32	11	115	180	295
Madras	1869	876	2,211,791	2,525	92	3,094,630	3,533	—	1	—	—	10	10	3	2	13	13	26
	1868	843	1,748,634	2,074	16	3,002,195	3,561	3	8	—	1	9	10	7	1	19	20	39
Bombay	1869	1,289	3,752,203	2,911	328	4,992,361	3,873	32	56	2	4	37	45	8	5	79	110	189
	1868	1,287	3,901,569	3,031	164	5,295,876	4,115	3	4	5	17	32	44	18	9	58	74	132
India	1869*	4,170	13,703,381	3,286	573	16,513,037	3,960	48	92	8	34	101	112	59	20	216	258	494
	1868†	3,958	11,431,656	2,888	259	16,228,859	4,100	25	64	10	50	100	139	57	21	192	274	466

* Contains figures for the Nulhattee line.
† Exclusive of figures for ditto.

CAPITAL.

Capital.

27. On the 1st April 1869 there was a balance of 3,202,119*l.* standing to the credit of the Indian Railway Companies. During the year ending 31st March last, they have raised a further sum of 4,269,252*l.*, making 7,471,371*l.* in all, and have expended 4,393,027*l.*

28. The total amounts of capital which, up to the 31st March, had been raised by the Companies was 86,522,491*l.*, of which they had expended 83,444,147*l.* Of this, nearly two-thirds, or about 50,000,000*l.* has been used in India, and, with the exception of the Oude and Rohilkund Railway, has been advanced by the Government there in rupees at the rate of 1*s.* 10*d.*, the money having been paid into the Home Treasury in sterling. The current rate of exchange during the greater part of the period while these transactions have been going on has generally been 2*s.* the rupee. So that the Government has thus added 2*d.* in the rupee or 9 per cent. to the money provided by the Companies for construction purposes. A sum of about 4,000,000*l.* should accordingly be added to the 83,444,147*l.* expended by the Companies to exhibit the actual cost of the railways. The land also, which has in all cases been granted by the Government, must be taken into account and the cost of establishments. No complete statement has yet been received from India of the amount expended by the Government on these heads, but the value of the land cannot I think be taken at less than 2,500,000*l.*, and the cost of establishments* at less than 500,000*l.* The total amount expended on Railways in the hands of the Companies will thus reach, in round numbers, 90,000,000*l.* The mileage cost of the 4,600 miles of open line cannot, however, be deduced from this sum without first deducting the amount which has been laid out on the lines not yet open, and it is difficult to form an opinion on this point at the present moment.

Cost of State railways.

29. No statements have been received of the actual expenditure on, or the estimated cost of, the lines in the hands of Government. The capital of the Calcutta and South-eastern line, surrendered to the Government by the company which constructed it, may be taken at about 650,000*l.*, and the cost of the Khamgaon line, which has been paid for out of the Berar revenues, at 40,000*l.* A sum of 100,000*l.* has also probably been expended on the Punjab Northern Railway, the cost of which it is estimated will come to about 10,000*l.* a mile, or 3,000,000*l.*

Classification of capital.

30. It will be seen that of the 86,522,491*l.* raised, 71,590,846*l.* consists of share capital, 13,605,685*l.* of debentures, and 1,325,960*l.* of debenture stock. The amount representing debentures has been reduced during the year by 2,370,830*l.*, viz., from 15,976,515*l.* to 13,605,685*l.*

Estimated expenditure during 1870-71.

31. With respect to the expenditure on the railways during the ensuing official year ending the 31st March 1871, it is estimated that a sum of 2,871,800*l.* will be required in India, and 2,150,000*l.* in England for the guaranteed lines, and that on the State lines 955,300*l.* will be expended in India, and 274,500*l.* in this country, making in all 5,021,800*l.* for guaranteed, and 1,229,800*l.* for State lines. Besides this, it is estimated that the State charges connected with the establishments and purchase of land will amount to 145,360*l.* Thus about 4,000,000*l.* will probably be expended in India, and 2,400,000*l.* in England during the ensuing year on Indian railways. A balance of about 3,000,000*l.* stood to the credit of the companies at the beginning of the year to be applied towards this expenditure.

State Lines.	£
Calcutta and Canning	10,500
Surveys, North of Ganges	5,000
Rajpootana	314,300
Punjab	595,000
Indus Valley	142,500
Rolling Stock	147,500
Hooblee and Carwar	15,000
Total	1,229,800

* Since 1864, the cost of establishments has amounted to 271,240*l.*

STATEMENT No. 1.

Shewing the Amount of Capital estimated to be required for each Undertaking as now sanctioned, the Amount authorised to be raised, the Amount raised, and the Amount expended, to 31st March 1870.

Railway.	Estimated Cost of Lines.	Amount authorised to be raised to 31st March 1870.					Amount raised in England to 31st March 1870.				Amount raised in India to Date of last Advices.	Total Amount raised to 31st March 1870.	Total Amount expended to 31st March 1870 (partly estimated).
		Share Capital.	Debentures.		Debenture Stock.	Total.	Share Capital.	Debentures.		Debenture Stock.			
			Convertible into Shares.	Inconvertible.				Convertible.	Inconvertible.				
	£	£	£	£	£	£	£	£	£	£	£	£	£
East Indian { Main line	27,500,000	21,683,530	1,316,470	4,450,000	—	27,450,000	21,222,577	1,316,470	4,450,000	—	320,501	27,309,548	27,401,230
East Indian { Jubbulpore line	3,500,000	2,593,680	606,320	—	—	3,200,000	2,583,000	606,320	—	—	7,665	3,196,985	2,596,112
Great Indian Peninsula	26,000,000	17,000,000	—	3,211,350	1,388,650	21,600,000	16,355,359	—	3,211,350	1,325,960	394,905	21,287,574	20,945,620
Madras { South-west line	6,500,000	4,816,550	1,122,450	311,000	—	6,250,000	4,621,690	1,122,450	311,000	—	—	6,055,140	9,475,904
Madras { North-west line	4,500,000	3,750,000	—	—	—	3,750,000	3,711,945	—	—	—	—	3,711,945	
Bombay, Baroda, and Central India	8,500,000	6,987,500	1,012,500	100,000	—	8,100,000	6,678,722	1,012,495	100,000	—	21,672	7,812,889	7,368,579
Scinde	2,250,000	2,030,600	69,400	150,000	—	2,250,000	2,000,065	69,400	124,600	—	21,775	2,215,840	2,116,970
Indus Flotilla	700,000	542,600	81,400	—	—	624,000	332,605	25,400	—	—	—	358,005	707,268
Punjab	3,000,000	2,150,000	100,000	300,000	200,000	2,750,000	1,990,787	—	300,000	—	9,659	2,300,446	2,643,366
Delhi	6,000,000	5,000,000	—	—	—	5,000,000	4,952,823	—	—	—	16,287	4,969,110	4,547,680
Great Southern of India	3,000,000	2,299,400	150,600	100,000	400,000	2,950,000	2,122,179	150,600	100,000	—	1,221	2,374,000	1,464,533
Eastern Bengal	3,000,000	2,238,000	—	610,700	—	2,848,700	2,164,321	—	592,600	—	15,924	2,772,845	2,752,143
Oude and Rohilkund	5,000,000	3,819,000	181,000	—	—	4,000,000	1,782,397	113,000	—	—	18,967	1,914,364	1,363,298
Carnatic	800,000	800,000	—	—	—	800,000	243,800	—	—	—	—	243,800	61,444
Total	100,250,000	75,710,860	4,640,140	9,233,050	1,988,650	91,572,700	70,762,270	4,416,135	9,189,550	1,325,960	828,576	86,522,491	83,444,147

Accountant General's Department,
9th April 1870.

W. G. GOODLIFFE,
Accountant General.

STATEMENT No. 2.

Shewing the Amount raised and expended by each Company during the Year ended 31st March 1870.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1869.	Sums advanced to the Companies on the 31st March 1869.	Amount raised between 1st April 1869 and 31st March 1870.		Amount expended.				Total raised during the Year ended 31st March 1870.	Total Amount expended during the Year ended 31st March 1870 (partly estimated).
			Share Capital.	Debenture Stock.	In England, between 1st April 1869 and 31st March 1870.	In India.				
						Date to which Accounts have been received.	Amount.	Estimated Expenditure between dates specified and 31st March 1870.		
	£	£	£	£	£		£	£	£	£
East Indian { Main line	—	* 297,617	997,366	—	298,485	31st Jan. 1870	412,946	80,000	997,366	791,431
East Indian { Jubbulpore line	* 611,023	—	53,175	—	—	„	43,325	20,000	53,175	63,325
Great Indian Peninsula	1,300,089	—	373,483	10,360	715,271	„	556,707	70,000	383,843	1,341,978
Madras	669,359	—	36,966	—	216,142	„	139,002	60,000	36,966	415,144
Bombay, Baroda, and Central India	162,323	—	344,530	—	42,443	31st Jan. 1870	10,100	10,000	344,530	62,543
Scinde	200,574	—	4,622	—	6,023	„	98,303	2,000	4,622	106,326
Indus Flotilla	—	344,775	100	—	2,424	„	164	2,000	100	4,588
Punjab	—	328,517	6,893	—	54,500	31st Dec. 1869	† 39,204	6,000	6,893	21,296
Delhi	817,493	—	135,045	—	119,141	„	291,967	120,000	135,045	531,108
Great Southern of India	—	65,371	1,024,000	—	12,889	„	31,273	5,000	1,024,000	49,162
Eastern Bengal	—	18,172	192,319	—	16,705	„	116,740	20,000	192,319	153,445
Oude and Rohilkund	495,710	—	906,593	—	670,647	31st Dec. 1869	130,590	50,000	906,593	851,237
Carnatic	—	—	183,800	—	1,444	—	—	—	183,800	1,444
Total	4,256,571	1,054,452	4,258,892	10,360	2,156,114	—	1,791,913	445,000	4,269,252	4,393,027

* These Balances are understood to be subject to adjustment in respect of Rolling Stock supplied by the Main line for the Jubbulpore line to the value, as approximately estimated, of £500,000.

† The sale proceeds of Stores, and transfers to "Revenue Account," exceed by this sum the amount expended in India between 1st April and 31st December 1869 on Capital Account.

Accountant General's Department,
9th April 1870.

W. G. GOODLIFFE,
Accountant General.

STATE of DEBENTURE LOANS on the 31st March 1870.

Railway.	Amount.			Rate of Interest	Date at which Loan expires.	Whether renewable.
	Convertible.	Inconvertible.	Total.			
	£	£				
East Indian	—	1,500,000		5	10th August 1870.	
"	—	1,500,000		5	15th Dec. 1870.	
"	610,520	—		5	1st April 1871.	
"	655,950	—		5	9th August 1871	Renewable.
"	50,000	—		4½	10th July 1872.	
"	—	1,000,000		4½	22d August 1872.	
"	—	440,000		4½	19th March 1873.	
"	—	10,000		4½	19th March 1875.	
"	606,320	—		5	23d March 1875.	
	1,922,790	4,450,000	6,372,790			
Great Indian Peninsula	—	36,900		5	30th June 1870.	
" "	—	67,550		5	31st Dec. 1870.	
" "	—	313,700		4½	" "	
" "	—	382,350		5	30th June 1871.	
" "	—	6,400		4½	" "	
" "	—	583,400		5	31st Dec. 1871.	
" "	—	1,074,450		5	" "	Renewable.
" "	—	435,000		5	30th June 1872.	
" "	—	42,800		4½	" "	
" "	—	268,800		5	30th June 1873.	
	—	3,211,350	3,211,350			
Madras	42,000	—		5	1st July 1870.	
"	110,350	311,000		5	1st January 1871.	
"	21,000	—		5	1st July 1871.	
"	458,500	—		5	1st January 1872.	
"	490,600	—		5	" "	Renewable.
	1,122,450	311,000	1,433,450			
Bombay, Baroda, and Central India	—	100,000		4½	15th January 1871.	
" " "	473,200	—		5	1st July 1871	Renewable.
" " "	212,395	—		5	1st July 1872.	
" " "	326,900	—		5	1st January 1875.	
	1,012,495	100,000	1,112,495			
Scinde	69,400	—		5	1st May 1870.	
"	—	124,600		4½	1st September 1870.	
	69,400	124,600	194,000			
Indus Steam Flotilla	25,400	—	25,400	5	1st May 1871.	
Punjab	—	300,000	300,000	4½	1st July 1870.	
Great Southern of India	42,100	—		5	1st July 1870.	
" "	—	25,000		4½	1st January 1871.	
" "	—	75,000		4½	1st July 1871.	
" "	10,400	—		5	" "	
" "	500	—		5	1st January 1872.	
" "	30,300	—		5	1st July 1872.	
" "	10,000	—		5	1st January 1874.	
" "	57,300	—		5	1st July 1874.	
	150,600	100,000	250,600			
Eastern Bengal	—	15,250		5	12th April 1871.	
"	—	333,450		5	12th October 1871.	
"	—	62,000		5	1st November 1871	Renewable.
"	—	181,900		5	1st November 1874.	
	—	592,600	592,600			
Oude and Rohilkund	36,700	—		5	15th April 1870.	
" "	200	—		5	28th July 1871	
" "	100	—		5	9th March 1872	Renewable.
" "	300	—		5	24th March 1872	
" "	75,700	—		5	15th April 1875.	
	113,000	—	113,000			
			13,605,685			

Accountant General's Department,
3rd May 1870.

W. G. GOODLIFFE,
Accountant General.

32. The following statements shew how the aforesaid expenditure has been incurred:—

Railway.	Works and Bridges.	Permanent Way and Stations.	Freight and Insurance.	Rolling Stock and Engines.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian	9,365,000	6,990,000	2,955,000	3,370,000	3,675,000	3,643,000
Great Indian Peninsula	8,442,586	6,229,473	2,058,253	2,407,919	1,423,268	198,225
Madras	2,843,500	3,273,750	Store and Workshops. 948,016	883,111	769,405	389,244
Bombay, Baroda, and Central India	2,990,000	1,815,000	Included in other items.	1,073,000	694,000	741,000
Scinde	595,250	371,879	207,202	226,080	268,293	314,614
Punjab	220,332	805,651	447,811	454,147	417,724	210,646
Delhi	1,090,232	2,114,303	62,318	478,787	216,459	507,448
	Steamers, &c.,	Warehouses and Workshops.				
Indus Flotilla	593,843	45,504	35,169	—	63,206	85,148
Great Southern of India	972,310			114,581	165,689	52,322
Eastern Bengal	1,960,729		Included in other items.	284,161	276,848	201,853
Oude and Rohilkund	—	—	—	—	—	—
Carnatic	4,457	37,303	5,992	14,720	23,011	9,946

33. The following table gives the annual expenditure by all the companies:—

Year.	Miles opened during the Year.	Expended in England.	Expended in India.	Total.
		£	£	£
Up to 1850	—	130,375	44,781	175,156
In 1851	—	154,212	197,111	351,323
„ 1852	—	174,920	252,640	427,560
„ 1853	22¼	252,484	418,165	670,649
„ 1854	50¼	960,878	768,710	1,729,588
„ 1855	98¼	1,939,101	1,431,904	3,371,005
„ 1856	101¾	1,752,813	1,765,094	3,517,907
„ 1857	143	1,324,873	2,092,395	3,417,268
„ 1858	145	1,940,052	3,551,073	5,491,125
„ 1859	74½	2,507,949	4,654,923	7,162,872
„ 1860	208	2,396,924	5,192,846	7,589,770
„ 1861	759	1,596,010	4,962,604	6,558,614
„ 1862	747	1,854,289	3,956,563	5,810,852
„ 1863	233½	1,411,661	3,360,114	4,771,775
„ 1864	402¼	1,387,699	2,418,345	3,806,044
„ 1865	388½	2,192,090	3,192,323	5,384,413
„ 1866	205	3,942,598	3,816,957	7,759,555
„ 1867	349	4,045,584	2,979,376	7,024,960
„ 1868	174¾	1,935,012	2,613,626	4,548,638
„ 1869	261	2,156,114	2,236,913	4,393,027

REVENUE.

34. The net revenue of the railways for the year ending the 31st December last was 2,520,952*l.*, being 1,670*l.* less than that of the year 1868. There was an increase in the amount of gross receipts, which were 5,709,382*l.* in 1869, compared with 5,320,723*l.* in 1868, but the working expenses were 3,203,171*l.* compared with 2,808,038*l.* Revenue, 1869.

35. The guaranteed interest paid by the Government to the Railway Companies last year amounted to 4,013,871*l.*; in 1868 it was 3,704,388*l.*; so that last year the charge upon the State, after deducting the amount paid into the Government Treasury from the railway profits, including the 80,000*l.* surplus profits of the East Indian Railway, was 1,412,919*l.*, compared with 1,181,766*l.* in the previous year. Guaranteed interest.

36. The receipts from passengers in 1869 were 1,737,168*l.* as compared with 1,752,169*l.* in 1868, being a falling-off of 15,001*l.* The receipts from merchandise were 3,808,767*l.* in 1869 and 3,456,879*l.* in 1868, being an increase of 351,888*l.* Miscellaneous receipts also increased by 51,772*l.*, from 111,675*l.* to 163,447*l.* This net increase of 388,659*l.* in the receipts of 1869 ever those of 1868 was, however, absorbed and converted into the small reduction above mentioned by an increase of 69,599*l.* in the maintenance charges, and of 325,534*l.* in the working expenses. Receipts.

37. These results cannot be regarded as satisfactory. There was a falling-off in the net receipts on all the lines, with the exception of the East Indian, on which there was an increase of 217,224*l.*, and the Delhi, where the increase, due to the additional mileage, was 41,864*l.* The depressed state of trade and famines in certain districts have seriously checked traffic, and the expense of repairing flood damages in the previous year have in some cases (especially on the Bombay, Baroda, and Central India, where the gross receipts had increased), raised the working and maintenance charges to an excessive height. Results.

38. It will be observed that the proportion of working expenses to gross receipts in some cases was above 80 per cent., while in others, viz., the East Indian and the North-west line of the Madras, it was about half that proportion. The average expenses of the 13 lines which realised profits were, in 1868, 61·77, and in 1869, 64·05 per cent. of the gross receipts. It may be expected that, when the lines have more fully developed the traffic which they ought to command, and when by the use of cheaper fuel from native sources the present heavy charges in the locomotive department are reduced, the average rate of expenditure will be under 50 per cent. If this had been the case during the past year of depression, nearly 350,000*l.* would have been added to the net receipts. Strenuous efforts are being made both by the Government and the Companies to reduce expenditure in every way, and to bring the working and establishment charges as low as is compatible with efficiency. High rate of working expenses. Efforts to reduce expenditure.

REVENUE ACCOUNTS for Years ended 31st December 1868 and 1869.

Railway.	Receipts.								Expenditure.						Per-centage of Working Expenses to Gross Receipts.		Net Receipts.	
	Passengers.		Goods.		Miscellaneous.		Total.		Maintenance.		Working.		Total.					
	1868.	1869.	1868.	1869.	1868.	1869.	1868.	1869.	1868.	1869.	1868.	1869.	1868.	1869.	1868.	1869.	1868.	1869.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£			£	£
East Indian: Main line -	686,504	678,532	1,435,784	1,748,474	27,384	54,907	2,149,672	2,481,913	206,901	178,561	725,150	857,031	932,051	1,035,592	43·37	41·72	1,217,621	1,446,321
„ Jubbulpore line -	41,824	42,561	42,376	51,861	1,105	14,177	85,305	108,599	12,236	23,104	52,744	94,344	64,980	117,448	—	—	*Dr.20,325*	*Dr.8,849*
Great Indian Peninsula - -	379,440	363,744	1,083,682	1,055,541	16,917	29,158	1,480,039	1,448,443	237,572	291,307	677,189	676,120	914,761	967,427	61·80	66·78	565,278	481,016
Madras: South-west line -	160,701	153,419	242,684	244,232	16,981	22,312	420,366	419,963	66,738	92,700	117,952	125,943	184,690	218,643	43·93	52·06	235,676	201,320
„ North-west line -	32,372	36,311	112,457	103,645	947	2,711	145,776	142,667	9,998	9,986	40,236	47,989	50,234	57,975	34·46	40·63	95,542	84,692
Bombay, Baroda, and Central India - - - -	187,561	187,097	196,953	228,348	35,200	26,386	419,714	441,831	76,265	66,428	196,230	268,779	272,495	335,207	64·94	75·84	147,219	106,624
Scinde - - - -	19,278	13,911	76,513	57,949	1,691	1,703	97,482	73,563	15,416	17,159	51,302	44,186	66,718	61,345	68·64	83·39	30,764	12,218
Punjab - - - -	40,796	37,192	59,728	57,420	2,310	2,256	102,834	96,868	18,249	20,741	60,141	78,646	78,390	99,887	76·23	—	24,444	*Dr.2,519*
Delhi - - - -	12,237	70,426	3,782	57,061	80	1,574	16,099	129,061	686	3,616	22,316	76,678	23,002	80,294	—	62·21	*Dr.6,903*	48,767
Indus Steam Flotilla - -	40,208	11,139	79,870	75,243	653	1,663	120,731	88,045			71,780	67,675	71,780	67,675	59·46	76·86	48,951	20,370
Great Southern of India - -	44,843	42,632	27,717	26,432	820	1,022	73,380	70,086	5,302	13,634	28,299	30,809	33,601	44,443	45·76	63·41	39,779	25,643
Eastern Bengal - - -	73,676	70,304	85,888	91,671	6,873	4,363	166,437	166,338	18,224	18,467	57,070	62,132	75,294	80,599	45·23	48·45	91,143	85,739
Oude and Rohilkund: Main line -	17,286	15,572	7,387	5,387	187	332	24,860	21,291	1,976	2,808	18,541	14,595	20,517	17,403	82·53	81·22	4,343	3,888
„ Nulhatee line	7,879	5,906	144	2,429	112	125	8,135	8,460	1,709	1,214	5,102	3,831	6,802	5,045	83·61	59·63	1,333	3,415
Carnatic - - -	3,653	3,972	460	856	275	21	4,328	4,849	947	1,059	3,237	2,851	4,184	3,910	93·07	80·63	204	939
Calcutta and South-eastern (State)	*3,911	4,450	*1,454	2,218	0	737	*5,505	7,405	*2,078	3,103	*6,461	7,675	*8,539	10,778	—	—	*Dr.*3,034*	*Dr.3,373*
Total - -	1,752,169	1,737,168	3,456,879	3,808,767	111,675	163,447	5,320,723	5,709,382	674,288	743,887	2,133,750	2,459,284	2,808,038	3,203,171	—	—	2,522,622	2,520,952

* The figures for 1868 apply only from the 1st April to 31st December 1868.

GUARANTEED INTEREST.

39. It will be seen by the subjoined statements that up to the 31st December 1869, a sum of 29,778,758*l.* 17*s.* 9*d.* had been paid by the Indian Government during the last 20 years for guaranteed interest. Of this sum 13,914,413*l.* 7*s.* 6*d.* had been recovered from the Companies; that is to say, their net half-yearly receipts (less the half surplus profits, which in three or four instances have been divided among the shareholders,) had, in the aggregate, amounted to that sum on the 30th June 1869, and had been paid to the Government. Guaranteed interest.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

Statement of the Total Amount of Interest advanced to each of the under-mentioned Railway Companies to 31st December 1869.

Company.	Interest paid up to 31st December 1868.	Interest paid during 1869.			Total.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian - - -	11,307,097 14 2	1,443,664 10 3	16,838 19 9	1,460,503 10 0	12,767,601 4 2
Great Indian Peninsula	5,798,297 1 7	962,601 16 0	19,714 9 3	982,316 5 3	6,780,613 6 10
Madras - - -	3,427,146 4 8	482,030 4 5	—	482,030 4 5	3,909,176 9 1
Bombay, Baroda, and Central India - -	2,009,883 17 9	371,505 12 5	1,083 4 4	372,588 16 9	2,382,472 14 6
Scinde - - -	832,885 19 5	108,337 14 11	1,088 1 4	109,425 16 3	942,311 15 8
Punjab - - -	717,202 5 5	108,423 5 9	482 19 0	108,906 4 9	826,108 10 2
Delhi - - -	431,231 17 3	234,271 10 3	738 17 5	235,010 7 8	666,242 4 11
Indus Steam Flotilla -	165,373 14 4	17,895 5 0	—	17,895 5 0	183,268 19 4
Great Southern of India	328,576 19 0	66,125 0 0	—	66,125 0 0	394,701 19 0
Eastern Bengal - -	658,152 3 5	127,270 9 8	732 17 8	128,003 7 4	786,155 10 9
Oude and Rohilkund -	89,038 12 0	50,303 9 3	763 2 1	51,066 11 4	140,105 3 4
Total - - £	25,764,886 9 0	3,972,428 17 11	41,442 10 10	4,013,871 8 9	29,778,757 17 9

Accountant General's Department,
9th April 1870.

W. G. GOODLIFFE,
Accountant General.

40. The actual amounts due from each Company at the end of last year for guaranteed interest is given, approximately, in the following statement. It must be borne in mind, however, that in addition to the sums here given, simple interest at the rate of 5 per cent. per annum is, under the contracts, chargeable upon the advances on this account. This interest is calculated to have reached about 4,900,000*l.*, raising the whole charge upon the future receipts of the railways up to half their surplus profits, *i.e.* the profits over and above the rate of interest guaranteed to about 20,765,000*l.*

41. The East Indian Railway debt would, for instance, thus be increased from 5,568,960*l.* to (say) 7,600,000*l.*; the Great Indian Peninsula from 3,559,248*l.* to 4,600,000*l.*; the Madras from 1,366,000*l.* to 3,000,000*l.*; the Eastern Bengal from 369,000*l.* to 470,000*l.* Some of the Companies, viz., the Great Indian Peninsula, the Madras, the Bombay, Baroda, and Central India, the Scinde, Punjab, and Delhi, and the Great Southern, have agreed to the arrangements mentioned in the former part of this report, and will hereafter always divide the surplus profits with the Government, no account being kept against them for the guaranteed interest advanced.

A STATEMENT of the APPROXIMATE AMOUNTS advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to 30th June 1869, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total amount advanced to 31st December 1869.*	Aggregate of Net Revenue Balances for the several half-years to 30th June 1869, inclusive.	Net amount advanced.
	£ s. d.	£ s. d.	£ s. d.
East Indian, Main line - -	11,462,499 19 6	7,176,073 13 0	4,286,426 6 6
„ Jubbulpore line - -	1,305,101 4 8	22,567 16 10	1,282,533 7 10
Great Indian Peninsula - -	6,780,613 6 10	3,221,365 7 3	3,559,247 19 7
Madras, South-west line - -	2,802,455 13 4	1,436,388 12 3	1,366,067 1 1
„ North-west line - -	1,106,720 15 9	276,072 7 1	830,648 8 8
Bombay, Baroda, and Central India -	2,382,472 14 6	869,203 6 10	1,513,269 7 8
Scinde, Scinde Railway - -	942,311 15 8	92,574 13 5	849,737 2 3
„ Indus Flotilla - - -	183,268 19 4	—	183,268 19 4
„ Punjab Railway - -	826,108 10 2	140,211 18 3	685,896 11 11
„ Delhi Railway - - -	666,242 4 11	69,022 9 10	597,219 15 1
Great Southern of India - -	394,701 19 0	184,100 12 11	210,601 6 1
Eastern Bengal - - -	786,155 10 9	417,102 12 7	369,052 18 2
Oude and Rohilkund - - -	140,105 3 4	9,729 17 3	130,375 6 1
£	29,778,757 17 9	13,914,413 7 6	15,864,344 10 3

* The Interest for the half-year to 30th June 1869 not being paid until the succeeding half-year.

Accountant General's Department,
3rd May 1870.

W. G. GOODLIFFE,
Accountant General.

42. It would thus appear that a sum of 15,864,344*l.* has, during the last 20 years, while the railways have been in course of execution, been drawn from the revenues of India for the payment of the guaranteed interest. This gives an average of about 793,000*l.* a year. In some years it has amounted to more than twice that sum. In others it has been much less. The largest sum was 1,700,474*l.*, in 1868–69; the smallest 67,043*l.*, in 1865–66.

43. While the State has been making this annual contribution towards the railways, it must be borne in mind that it has for some years derived a direct pecuniary benefit from them, both by the conveyance of mails free of charge, and the conveyance of troops, both horse and foot at the lowest fares, and their baggage, ammunition, camp equipage and equipments, at the lowest rates chargeable for goods of that kind. The saving thus effected must be considerable, and nearly, if not quite equivalent to the amount of the annual average charge hitherto incurred by the revenues of the country for the guarantee. This charge, it may be hoped will gradually diminish, as the lines are completed, and the deficit ultimately converted into a surplus.

44. The following statement, which is taken from returns rendered to Parliament by the financial department, gives the amount of guaranteed interest paid by Government on railway capital, in each official year from 1856–57, less the net traffic receipts from the railways.

Year.	Net Amount of guaranteed Interest paid by the Government.	Year.	Net Amount of guaranteed Interest paid by the Government.
	£		£
1856–57 -	404,197	1863–64 -	1,669,283
1857–58 -	526,420	1864–65 -	1,591,797
1858–59 -	606,046	1865–66 -	67,043
1859–60 -	810,468	1866–67 -	731,049 (11 months)
1860–61 -	1,121,734	1867–68 -	1,540,435
1861–62 -	1,425,080	1868–69 -	1,700,470
1862–63 -	1,572,174	1869–70 -	1,524,821

TRAFFIC AND WORKING.

Traffic returns.

45. I have been enabled this year, by the prompt attention of the companies' agents in India to a request for the early delivery of traffic returns for the second half of last year, to bring these accounts up to the end of 1869, and the returns

in future will be given for the year ending 31st December, instead of as heretofore the 30th June. To enable a comparison, however, to be made with last year's results, the returns for the year ending June last are also given in this report. The following observations apply to the years ending in June, not in December, as is the case under the head of "Revenue."

Gross receipts.

46. It will be seen that the gross receipts from all sources for that period have increased on every line, except the Scinde section of the Scinde, Punjab, and Delhi system, making an addition of 188,596*l.* in the aggregate in passengers and 577,108*l.* in goods, the former being 1,552,560*l.* in 1867–8 and 1,740,956*l.* in 1868–9, and the latter 3,128,256*l.* and 3,705,364*l.* respectively. The train mileage also increased from 11,980,319 in 1867–8 to 12,318,086 in 1868–9. The number of miles open were 3,688 and 4,065 respectively in the two periods.

Train mileage.

Miles open.

Working charges.

47. The working charges also increased by 236,728*l.*, from 2,662,579*l.* in 1867–8 to 2,899,307*l.* in 1868–9. Thus an increase of 528,976*l.* in the net receipts was produced. The receipts per mile in 1867–8 were 547*l.*; in 1868–9, 634*l.*

Train mileage results.

48. The train mileage receipts and expenses exhibit upon the whole a slight improvement. The average gross receipts per train mile from the ten open lines in 1867–68 and 1868–69 were 8·5*s.* and 9·5*s.* respectively; the average expenses being 5·4*s.* and 5·5*s.* The heavy mileage charges for maintenance on the Great Indian Peninsula, the Bombay, Baroda, and Central India, and the Scinde are due to extraordinary repairs, and the great difference in the expenses of the locomotive department on the Bombay, Baroda, and Central India (30·9*d.*), the Scinde (42·16*d.*), the Great Indian Peninsula (28·4*d.*), the East Indian (15·75*d.*), the Madras (14*d.*), the Great Southern of India (12·8*d.*), and the Eastern Bengal (15*d.*), may be accounted for by the high price of fuel in Western India, the use of native coal in Bengal, and the more extensive employment of wood in Madras.

Traffic—Passenger.

49. The first and second class still form a very small portion of the passenger traffic. Out of 16,011,633 conveyed, 137,762 were first, 626,355 second, and 15,247,516 third class, the last being 95·23 per cent. of the whole. The receipts from passengers amounted to 1,496,117*l.*, of which 1,263,481*l.*, or 84·45 per cent., was obtained from the third class, the second class producing 133,773*l.*, and the first 92,000*l.*

Traffic—Goods.

50. The goods which constitute the principal part of the merchandise traffic, are coal, cotton, iron, sugar, indigo, grains, rice, salt, piece-goods, jute, hides. During the year ending the 30th June, 2,588,513 tons of merchandise were carried, the receipts therefrom amounting to 3,705,364*l.*, of this 1,017,216 tons were conveyed by the East Indian, and 514,377 by the Great Indian Peninsula Railways alone, the receipts of these two Companies being 2,840,675*l.*, or 76 per cent. of the whole. The information at present procurable does not enable me to give the amount of each principal commodity conveyed, but I find that by far the greater proportion consists of grain and rice; then come salt, cotton, coal, sugar, piece-goods, hides, saltpetre, jute.

Interchange of traffic.

51. Upon the eve of the junction of the East Indian and Great Indian Peninsula Railways at Jubbulpore, the boards of the two Companies met to consider the traffic arrangements to be made, and at once decided upon laying down the principle of a free and unrestricted interchange of traffic between the two railways, leaving it to the agents and managers in India to carry that principle into practice in a manner that would be alike advantageous to the public and the companies. Spacious saloon carriages will be provided for the long journey, with all such comforts and conveniences for refreshment and repose as will reduce fatigue and weariness to a minimum.

Construction of vehicles.

52. With a view to economy in working, endeavours have been made, and are still being made, to increase the carrying capacity of the wagons and carriages in proportion to their dead weight and the load usually carried. In England and in America, a wagon, it is calculated, carries on an average a load 1·50 times its own weight. Where the goods are light, as some of the staple commodities of India are, there is more difficulty in fixing a favorable proportion, for the greater capacity of the goods in proportion to their weight, the higher the sides of, and therefore the heavier must be the vehicle; cotton, for instance, would probably require three times the space for the same weight of salt, and four or five times that of bricks, or iron. A variety of trucks is consequently desirable, and careful traffic management necessary, to secure strict economy. Amongst other devices an iron cylindrical wagon, designed by Mr. Prestage of the Eastern Bengal

Railway, and an iron wagon, not cylindrical, designed by Mr. Rendel, have been provided.

Uniformity in working different lines.

53. Now that the various lines are being formed into a united whole, it is very desirable to consider not only the mode by which a continuous traffic shall be conducted, but how uniformity in the arrangements of working the system may be established. The circumstances of each railway may, and do differ, but there is much that is common to all, and as far as is practicable, uniformity should be maintained both as regards the system of management and rates of charge as well as the rules for regulating the pay, leave, promotion, &c. of the various grades of the railway service generally. One branch of this question has already been referred to under the head of European staff. The existence in different parts of the country of so many agencies, all engaged in the same kind of work, and the ready means of communication which the railways afford, naturally suggest the expediency of periodical conferences between the representatives of the various departments of each railway, to exchange thoughts and ideas, and to give one another the advantage of their personal knowledge and experience.

Fares.

Reduction desirable.

54. No material change has been made in the rates and fares during the past year, but such alterations as have been made are in the right direction. The Bombay, Baroda, and Central India Railway Company reduced the rates for cotton on their line between certain places. The fares for third class passengers on the same line were also reduced to 3 pies, or $\frac{3}{8}d.$ per mile. The effect of lowering the charge for the conveyance of grain on the East Indian Railway to $\frac{1}{2}d.$ a ton a mile during the scarcity which prevailed was to produce a large increase in the traffic and a fair profit, results which should encourage the policy of adopting low rates for the carriage of the staple commodities of the country. It takes some little time for the managers of traffic, in a country where railways are new, to ascertain the habits and prejudices of the producers and traders, and it requires considerable skill and judgment to suit a new mode of conveyance or a fresh channel for trade to the tastes and wishes of the people. In many places the road and the river are still used in preference to the railway. The value of time has not yet been learnt. This knowledge will, in due course, be acquired; but it will, I think, be found good policy, in the meanwhile, to offer the temptation of lower rates for certain goods, especially on lines which have water communication to compete with them. Major Taylor, in his report on Belgian Railways before referred to, points out that in that country the principle of a sliding scale is adopted, the mileage charges being in an inverse ratio to the distance. A line is divided into certain equal sections, and goods and passengers conveyed any distance within each division is charged the same. Thus the sections may be each 20 miles in length. A person travelling two miles is charged the same as one going 20, and one going 22 the same as one travelling 40. The correctness of this principle appears, however, open to doubt. The stations on a line having been fixed, and the rolling stock provided, the cost of haulage and the distance carried would seem to form the more correct basis for the charge, exceptions being made in certain cases where the circumstances of the traffic between two stations are of a special nature.

Rates in force.

55. The following are the charges now in force. Salt, grain, &c. are carried at the lowest rates; rice at $1\frac{1}{2}d.$ per ton; cotton, if pressed, at from $1\frac{1}{2}d.$ to $1\frac{3}{4}d.$; if unpressed, at $4\frac{1}{2}d.$ per ton per mile.

Railway.	Passengers, per mile.				Goods, per ton per mile.						
	1st Class.	2nd Class.	3rd Class.	4th Class.	1.	2.	3.	4.	5.	6.	Special.
East Indian - -	$2\frac{1}{4}$	$1\frac{1}{8}$	$\frac{3}{8}$	—	1	$1\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{1}{2}$	—	$\frac{7}{8}$ for distances over 300 miles.
Great Indian Peninsula -	$2\frac{1}{4}$	$1\frac{1}{8}$	$\frac{1}{4}$	$\frac{5}{16}$	1	$1\frac{1}{4}$	$1\frac{3}{4}$	$1\frac{1}{2}$	3	7	
Madras - - -	$2\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	1	$1\frac{1}{4}$	$1\frac{3}{4}$	$2\frac{1}{4}$	3	6	
Bombay, Baroda, and Central India.	$1\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{8}$	—	1	$1\frac{1}{4}$	$1\frac{3}{4}$	$2\frac{1}{2}$	$3\frac{1}{2}$	5	Many articles are carried on this line at special rates, below the ordinary.
Scinde and Punjab -	$2\frac{1}{2}$	$1\frac{1}{8}$	$\frac{5}{16}$	—	—	—	—	—	—	—	
Great Southern of India -	$2\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{8}$	—	—	—	—	—	—	—	
Eastern Bengal - -	$2\frac{1}{4}$	$1\frac{1}{8}$	$\frac{5}{16}$	$\frac{3}{16}$	1	$1\frac{3}{4}$	$2\frac{1}{4}$	$3\frac{1}{2}$	7	—	$\frac{3}{4}$
Oude and Rohilkund -	$2\frac{1}{4}$	$1\frac{1}{8}$	$\frac{5}{16}$	$\frac{3}{16}$	$1\frac{1}{4}$	$1\frac{3}{4}$	$2\frac{1}{4}$	$3\frac{1}{2}$	7	—	$\frac{3}{4}$

Summary of Traffic on the Indian Guaranteed Railways for the Year ended 30th June 1869.

Railway.	Number of Miles of Open Line.			Number of Miles of Sidings.	Passenger Traffic.								Goods Traffic.					Number of Trains run.				Number of Miles travelled by Trains, exclusive of Shunting, &c.				Number of Engines employed.
					Number of Passengers (exclusive of Holders of Season and Periodical Tickets).				Number of Holders of Season and Periodical Tickets.	Number of Carriages and Palkees.	Number of Horses.	Number of Dogs, &c.	Live Stock.			Number of Tons of Minerals.	Number of Tons of Merchandise (exclusive of Live Stock and Minerals).	Passenger Trains.	Goods and Mineral Trains.	Mixed Trains.	Total Number of Trains.	By Passenger Trains.	By Goods and Mineral Trains.	By Mixed Trains.	Total Number of Miles.	
	Double.	Single.	Total.		1st Class.	2nd Class.	3rd Class, &c.	Total Number of Passengers.					Number of Cattle.	Number of Sheep.	Number of Pigs, &c.										
East Indian (Main Line)	203	930	1,133	447	35,443½	123,725	4,806,020	4,965,788½	774	1,144	4,493	8,001	547	293	11	265,718	940,012	3,567	16,504	15,050	35,121	926,660½	3,282,472	1,287,825½	5,496,967	417
„ (Jubbulpore Line)	—	223	223	19	2,038½	9,847	148,687½	160,553	—	74	354	476	20	14	4	24	77,204	70	631	1,154	1,855	14,511	57,427½	287,342	329,280½	27
Great Indian Peninsula	256	616	872	*	32,900	187,803	3,026,408	3,247,171	1,123	638	6,613	6,162	398	283,337	22	406,128	514,877	9,919	22,578	4,185	36,682	876,180	1,674,565	378,482	2,929,227	178
Madras (South-west Line)	—	492	492	63	7,763	68,568	1,661,363	1,637,697	7	812	4,011	2,637	6,136			—	325,267	—	—	6,910	6,910	—	—	1,118,210	1,118,210	89
„ (North-west Line)	—	185	185	*	764	6,012	437,335	444,131	—	213	1,174	572	456			—	98,485	—	—	3,714	3,714	—	—	314,428	314,428	27
Bombay, Baroda, and Central India	17	291	308	*	11,261	82,592	1,646,408	1,740,951	483	462	2,552	2,114	4,027	156,280	626	15,323	162,548	1,893	9,314	2,769	13,976	236,162	338,316	128,535	701,013	*
Scinde	5	104	109	43	1,572	3,619	103,262	113,453	415	41	220	565	7	40	—	22,228	87,925	43	344	968	1,355	1,575	27,180	79,894	108,649	18
„ Punjab	—	246	246	26	6,757	32,051	600,542	639,350	—	99	722	1,263	64	120	—	—	83,223	—	1,435	2,870	4,305	—	137,807	209,673½	347,540½	30
„ Delhi	—	174	174	78	3,183½	42,133½	448,567	493,887	—	154	1,552	2,185	141*	62	—	—	74,694	—	774	3,133	3,907	—	56,343	173,287	229,630	† 26
Great Southern of India	—	168	168	12	1,334½	7,797	811,009	820,340½	—	431	567	399	417	—	—	4,439	60,398	—	—	2,345	2,345	—	—	309,519	309,519	17
Eastern Bengal	—	113	113	24	26,026½	33,803	1,235,460	1,295,292½	224	140	595	929	62	96	—	39,535	133,902	2,912	1,653	626	5,191	169,576½	145,437½	52,584	367,598	?
Oude and Rohilkund (Main Line)	—	42	42	5	2,822½	8,401½	336,795	368,060½	—	70	341	708	23	2	1	—	30,478	—	—	1,572	1,572	—	—	66,024	66,024	4
Totals	481	3,894	4,035		137,762	626,355	15,247,516	16,011,633	2,976	4,278	23,104	26,011	454,002½			753,395	2,588,513	18,404	53,233	45,296	116,933	2,224,374	5,717,608	4,375,804	12,318,086	

* Not stated. † Beas section worked by the Punjab Railway engines.

SUMMARY of TRAFFIC on the INDIAN GUARANTEED RAILWAYS for the Year ended 30th June 1869—*continued.*

Railway.	Fares per Mile.			Gross Receipts from Passenger Traffic.											Gross Receipts from Goods Traffic.					Total Receipts from all Sources of Traffic.	Average Receipts per Train Mile.
				Receipts from Passengers.					Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c., conveyed in Passenger Trains.	Receipts from Mails.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic.	Receipts per Train Mile from Passengers.					Receipts per Train Mile from Goods.		
	1st Class.	2nd Class.	3rd Class.	1st Class.	2nd Class.	3rd Class, &c.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.							Live Stock.	Minerals.	General Merchandise.	Total Receipts from Goods Traffic.			
	pies.	pies.	pies.	£	£	£	£	£	£	£	£	£	£	s.	£	£	£	£	s.	£	s.
East Indian (Main Line)	18	9	5	36,632	50,012	494,696	3,653	585,051	65,133	12,467	2,195	30,155	695,005	2·52	1,014	165,472	1,519,834	1,686,323	6·13	2,381,328	8·6
„ (Jubbulpore Line)	18	9	5	2,875	5,678	23,314	—	31,868	3,525	5,378	—	4,413	45,188	2·74	20	24	52,207	52,251	3·17	97,439	5·9
Great Indian Peninsula	18	9	4	23,386	35,945	268,658	1,635	329,624	45,165	2,362	4,019	—	381,170	2·60	9,098	50,066	1,042,937	1,102,101	7·52	1,483,271	10·1
Madras (South-west Line)	18	6	3	11,591	12,079	114,430	81	138,181	18,260	—	705	—	157,146	2·81	551	—	239,567	240,188	4·04	397,264	6·8
„ (North-west Line)	18	6	3	769	916	28,696	—	30,381	3,933	—	62	—	34,376	2·18	121	—	95,247	95,368	6·06	129,744	8·2
Bombay, Baroda, and Central India	15	7	4	5,101	10,725	155,423	377	171,626	16,696	132	4,640	—	193,094	5·50	7,708	23,090	214,548	245,346	6·99	438,440	12·5
Scindé	*	*	*	833	1,211	13,106	8	15,158	1,256	—	—	—	16,414	3·02	3	1,350	62,630	63,983	11·77	80,397	14·8
„ Punjab	18	9	2½	2,312	5,621	29,823	—	37,756	3,061	101	—	—	40,938	2·35	92	—	64,910	65,002	3·73	105,940	6·1
„ Delhi	18	9	2½	3,203	6,925	23,607	—	33,735	6,035	52	—	—	39,822	3·46	22	—	28,395	28,417	2·47	68,239	5·9
Great Southern of India	18	5	3	700	925	39,733	—	41,358	2,349	—	165	—	43,873	2·84	31	1,261	26,104	27,396	1·77	71,269	4·6
Eastern Bengal	18	9	4½	4,067	2,703	59,122	500	66,412	5,388	5,694	—	—	77,494	4·21	29	17,311	74,746	92,086	5·01	169,581	9·2
Oude and Rohilkund (Main Line)	18	9	2	1,061	1,033	12,373	—	14,907	1,469	—	—	—	16,436	4·97	4	—	6,969	6,973	2·11	23,409	7·1
Totals	—	—	—	92,690	133,773	1,263,481	6,259	1,496,117	172,290	28,186	11,786	34,568	1,740,956	—	18,693	258,574	3,428,094	3,705,364	—	5,446,323	—

* Not stated.

STATEMENT shewing the EXPENDITURE on REVENUE ACCOUNT for the Year ended 30th June 1869.

Railway.	Maintenance and Renewal of Way and Works.		Cost of producing Locomotive Power by Wages and Materials.		Repairs and Renewals of Carriages and Wagons.		Traffic Charges.		Rates and Taxes.		Compensation for Personal Injury, &c.		Compensation for Damage and Loss of Goods.		Legal and Parliamentary Expenses.		Miscellaneous Working Expenditure, not included in the foregoing.		Total Working Expenditure.	
	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.
	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	s.
East Indian (Main Line)	170,248	7·43	360,878	15·75	90,453	3·94	207,117	9·04	2,946	0·12	200	0·008	2,501	0·109	720	0·03	128,712	5·61	963,775	3·50
„ (Jubbulpore Line)	21,966	16·01	53,021	38·64	5,473	3·98	12,524	9·12	45	0·03	12	0·008	146	0·106	37	0·026	8,752	6·37	101,976	6·19
Great Indian Peninsula	270,702	22·17	347,153	28·44	79,419	6·50	175,975	14·41	—	—	9,962	0·81	1,133	0·09	5,208	0·42	62,819	5·14	952,421	6·50
Madras (South-west Line)	68,537	14·70	70,181	15·06	6,135	1·31	32,405	6·95	145	0·03	—	—	17	0·003	9	0·001	11,532	2·47	188,961	3·37
„ (North-west Line)	11,403	8·70	17,689	13·50	1,808	1·38	6,879	5·25	83	0·06	—	—	2	0·001	—	—	13,512	10·17	51,381	3·26
Bombay, Baroda, and Central India	65,460	22·32	92,646	31·71	24,463	8·32	57,932	19·83	956	0·32	5	0·001	4,933	1·68	586	0·20	58,243	19·94	305,226	3·70
Scinde	13,268	29·30	19,089	42·16	3,027	6·68	13,433	29·67	—	—	—	—	370	0·81	67	0·14	6,682	14·76	55,936	10·29
„ Punjab	20,808	14·36	31,212	21·55	2,378	1·64	17,831	12·31	70	0·04	7	0·004	610	0·42	89	0·06	21,493	14·84	94,493	5·43
„ Delhi	2,279	2·38	21,006	21·95	945	0·98	14,235	14·87	8	0·008	—	—	261	0·27	2	0·002	5,780	6·05	44,525	3·87
Gre Southern of India	7,909	6·13	16,495	12·79	3,564	2·76	5,245	4·06	204	0·15	16	0·01	68	0·04	9	0·006	5,026	3·89	38,531	2·48
Eastern Bengal	19,553	12·76	22,974	14·99	3,664	2·39	25,172	16·43	207	0·13	—	—	299	0·19	—	—	8,901	5·81	80,770	4·39
Oude and Rohilkund (Main Line)	3,102	11·27	7,549	27·44	1,293	4·70	848	17·63	—	—	—	—	102	0·36	—	—	4,413	16·04	21,307	6·45
Totals	675,240	—	1,059,893	—	222,622	—	572,596	—	4,664	—	10,202	—	10,487	—	6,727	—	335,874	—	2,896,307	—

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Summary of Traffic on the Indian Railways for the Year ended 31st December 1869.

Railway.	Number of Miles of Open Line.			Number of Miles of Sidings.	Passenger Traffic.									Goods Traffic.		
					Number of Passengers (exclusive of Holders of Season and Periodical Tickets).						Number of Holders of Season and Periodical Tickets.	Number of Carriages and Palkees.	Number of Horses.	Number of Dogs, &c.	Live Stock.		
	Double.	Single.	Total.		1st Class.	2nd Class.	Inter-mediate Class.	3rd Class.	Fourth or Coolie Class.	Total Number of Passengers.					Number of Cattle.	Number of Sheep.	Number of Pigs, &c.
East Indian (Main Line)	206	926	1,132	255	34,651½	118,926	491,334	4,265,506	—	4,910,417½	600½	1,218	5,006	7,810	744	84	16
„ (Jubbulpore Line)	—	223	223	19	2,088	10,046½	4,187½	146,037	—	162,359	—	89	408	385	25	—	—
Great Indian Peninsula	256	616	872	*	31,492½	162,138	—	1,558,268	1,289,491½	3,041,390	359	553	5,069	5,484	209	235,433	36
Madras (South-west Line)	—	492	492	64	7,601	85,870	—	1,402,252	159,195	1,654,918	1	771	3,996	2,458	884	4,486	796
„ (North-west Line)	—	215	215	27	848½	6,904	—	445,811	—	451,823½	—	228	1,083	571	254	145	25
Bombay, Baroda, and Central India	18	290	308	*	12,704	96,444	—	1,738,047	—	1,847,195	907	346	2,441	1,976	4,423	132,076	340
Scinde	5	104	109	43	1,419	3,072	—	94,062	—	98,553	60	53	242	506	—	18	—
„ Punjab	—	246	246	26	5,878	13,550	—	648,736	—	668,165	—	93	589	1,306	30	113	—
„ Delhi	—	284	284	54	9,995	52,394	—	649,351	—	711,050	—	178	2,701	3,345	33	81	—
Great Southern of India	—	163	163	13	1,374	8,328	—	800,820	—	810,522	—	415	536	481	353	—	—
Eastern Bengal	—	113	113	24	25,061	32,463	—	304,044½	923,048	1,286,116½	185	160	820	1,207	66	98	—
Oude and Rohilkund (Main Line)	—	42	42	5	2,654½	7,875	—	337,851	—	347,380½	—	66	458	710	22	11	15
„ (Nulhatee Line)	—	28	28	*	838	2,477½	2,514½	75,471	—	81,301	—	47	9	46	1	2	—
Indian Tramway (now Carnatic)	—	19	19	2	346	7,506	—	94,149	—	102,001	—	—	—	13	—	2	—
Calcutta and South-eastern (State)	—	28	28	10	1,233	4,409	44,298½	197,935½	850	248,836½	—	8	30	115	72	37	24

Summary of Traffic on the Indian Railways for the Year ended 31st December 1869—*continued.*

Railway.	Goods Traffic.					Number of Trains run.						Number of Miles travelled by Trains (exclusive of Shunting, &c.).						Number of Engines employed.
	Minerals.				Number of Tons of Merchandise (exclusive of Live Stock and Minerals).	Passenger Trains.	Goods Trains.	Mineral Trains.	Mixed Trains.	Extra Trains.	Total Number of Trains.	By Passenger Trains.	By Goods Trains.	By Mineral Trains.	By Mixed Trains.	By Extra Trains.	Total Number of Miles.	
	Number of Tons of Coal and Coke.	Number of Tons of Earth and Railway Materials.	Number of Tons of other Minerals.	Total Number of Tons of Minerals.														
East Indian (Main Line)	267,278	17,842	—	285,121	933,629	2,222	7,876	2,153	17,787	6,827	36,865	150,792	2,431,042	155,459½	2,367,879½	998,760½	6,094,833½	421
„ (Jubbulpore Line)	—	—	—	—	75,441	—	—	—	1,460	818	2,278	—	—	—	325,630	84,442	410,022	23
Great Indian Peninsula	3,846	389,659	—	393,505	445,870	8,883	16,554	5,017	4,010	—	34,464	841,672	1,499,774	279,666	215,648	—	2,836,760	188
Madras (South-west Line)	1,103	50,790	—	51,893	233,136	—	—	—	6,732	380	7,102	—	—	—	1,108,985	19,541	1,128,526	96
„ (North-west Line)	475	27,955	—	28,430	79,263	—	—	—	3,328	571	3,899	—	—	—	311,431	43,369	354,800	32
Bombay, Baroda, and Central India	11,510	—	3,284	14,794	136,569	730	3,742	5,382	4,971	87	14,912	225,801	202,267	110,175	162,058	4,059	794,900	45
Scinde	496	9,240	18,547	28,283	73,355	66	274	175	724	111	1,350	8,984	27,241	8,892	69,661	1,338	116,116	17
„ Punjab	—	—	—	—	81,619	—	1,013	—	2,270	—	3,283	—	84,873	—	210,242	—	295,120	30
„ Delhi	—	—	—	—	113,469‡	—	1,571	—	3,925	—	5,596	—	133,133	—	296,533	—	429,666	20†
Great Southern of India	—	4,478	—	4,478	59,001	—	—	—	2,156	—	2,156	—	—	—	298,105	—	298,105	17
Eastern Bengal	18,643	15,419	1,735	35,797	139,541	2,894	1,519	48	626	—	5,087	163,760½	143,487½	341½	52,584	156	365,336	*
Oude and Rohilkund (Main Line)	—	—	—	—	22,131	—	—	—	1,460	34	1,494	—	—	—	61,320	1,596	62,916	4
„ (Nulhatee Line)	1,854	9	103	1,966	8,171	—	—	—	730	94	824	—	—	—	20,440	2,448	22,888	4
Indian Tramway (now Carnatic)	—	—	—	—	6,339	—	—	—	1,453	62	1,515	—	—	—	27,007	1,178	28,185	4
Calcutta and South-eastern (State)	73	332	—	405	22,455	—	—	—	1,460	42	1,502	—	—	—	30,992	924	31,916	4

* Not stated.

† Bean section worked by Punjab Railway engines.

Summary of Traffic on the Indian Railways for the Year ended 31st December 1869.

Railway.	Fares per Mile.					Gross Receipts from Passenger Traffic.												Gross Receipts from Goods Traffic.								Total Receipts from Passenger and Goods Traffic.	Passenger and Goods Traffic Receipts per Train Mile.
						Receipts from Passengers.							Gross Receipts from Luggage, Parcels, Carriages, Horses, Dogs, &c., conveyed in Passenger Trains.	Receipts from Mails.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic.	Receipts per Train Mile from Passenger Traffic.	Live Stock.	Minerals.				General Merchandise.	Total Receipts from Goods Traffic.	Receipts per Train Mile from Goods Traffic.		
	1st Class.	2nd Class.	Intermediate Class.	3rd Class.	4th or Coolie Class.	1st Class.	2nd Class.	Intermediate Class.	3rd Class.	4th or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.							Coal and Coke.	Earth and Railway Materials.	Other Minerals.	Total Receipts from Minerals.					
	pies.	pies.	pies.	pies.	pies.	£	£	£	£	£	£	£	£	£	£	£	£	s.	£	£	£	£	£	£	£	s.	£	s.
East Indian (Main Line)	18	9	4½	3	—	35,464	60,592	30,249	441,853	—	2,929	571,089	64,252	12,834	3,210	27,143	678,532	2·22	688	134,380	40,452	—	174,832	1,572,952	1,748,474	5·73	2,427,006	7·96
„ (Jubbulpore Line)	18	9	4½	3	—	2,932	8,107	742	21,113	—	—	32,987	3,595	2,787	72	3,116	42,561	2·07	2	—	—	—	—	51,859	51,861	2·52	94,423	4·60
Great Indian Peninsula	18	9	—	4	2½	23,089	31,605	—	166,704	93,060	1,224	316,282	44,459	449	2,554	—	363,744	2·56	7,728	4,403	60,896	—	65,368	932,455	1,005,541	7·44	1,419,285	10·00
Madras (South-west Line)	18	6	—	3	2	11,327	12,888	—	104,155	5,739	7	134,116	17,651	—	584	1,068	153,419	2·71	544	591	23,139	—	23,730	219,959	244,233	4·33	397,652	7·04
„ (North-west Line)	18	6	—	3	—	916	1,208	—	30,064	—	—	32,188	4,087	—	36	—	36,311	2·04	109	276	21,850	—	22,126	81,410	103,645	5·84	139,956	7·88
Bombay, Baroda, and Central India.	15	7	—	4	—	4,593	10,645	—	152,995	—	861	169,094	15,419	160	2,718	—	187,391	4·71	6,922	6,233	10,495	1,770	18,498	225,446	250,866	6·31	438,257	11·02
Scinde	*	*	—	*	—	734	996	—	10,858	—	1	12,589	1,271	—	51	—	13,911	2·39	—	19	512	1,226	1,757	55,192	57,949	9·96	71,860	12·37
„ Panjab	18	9	—	2½	—	1,881	3,422	—	29,854	—	—	34,157	2,927	108	—	—	37,192	2·52	25	—	—	—	—	58,129	58,154	3·96	95,347	6·50
„ Delhi	18	9	—	3	—	5,175	10,871	—	43,965	—	—	60,011	10,354	60	—	—	70,425	3·36	26	—	—	—	—	57,957	57,983	2·76	128,408	6·12
Great Southern of India	18	5	—	3	—	645	994	—	38,739	—	—	40,378	2,138	—	116	—	42,632	2·36	36	—	2,171	—	2,171	24,225	26,432	1·77	69,064	4·63
Eastern Bengal	18	9	—	4½	3	4,118	2,619	—	15,058	42,368	446	64,629	5,572	—	57	46	76,304	3·84	25	5,931	8,188	511	14,630	77,016	91,671	5·01	161,975	8·36
Oude and Rohilkund (Main Line).	18	9	—	2	—	982	957	—	12,004	—	—	13,943	1,619	—	10	—	15,572	4·95	5	—	—	—	—	5,362	5,367	1·71	20,939	6·66
„ (Nulhatee Line)	30	15	7½	5	—	278	373	245	4,047	—	—	4,943	513	—	450	—	5,906	5·16	1	416	2	16	434	1,994	2,429	2·12	8,335	7·28
Indian Tramway (now Carnatic)	20 18	6	—	4	—	53	410	—	3,453	—	—	3,916	56	—	—	—	3,972	2·76	—	—	—	—	—	856	856	·59	4,828	3·35
Calcutta and South-eastern (State).	18	9	4½	3	1½	198	224	714	3,045	6	—	4,187	254	—	9	—	4,450	2·78	22	8	30	—	48	2,158	2,218	1·38	6,668	4·17
Totals		*				92,985	145,001	31,950	1,077,907	141,193	5,468	1,494,509	174,107	16,398	9,867	31,373	1,726,322	2·60	16,133	152,316	167,735	3,523	323,574	3,417,990	3,757,699	5·66	5,484,023	8·27

* Not stated.

STATEMENT shewing the EXPENDITURE on REVENUE ACCOUNT for the Year ended 31st December 1869.

Railway.	Maintenance and Renewal of Way and Works.		Cost of producing Locomotive Power by Wages and Materials.		Repairs and Renewals of Carriages and Wagons.		Traffic Charges.				Rates and Taxes.		Compensation for Personal Injury, &c.		Compensation for Damage and Loss of Goods.		Legal and Parliamentary Expenses.		Miscellaneous Working Expenditure, not included in the foregoing.		Total Working Expenditure.	
							Coaching.		Merchandise.													
	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.
	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	s.
East Indian (Main Line)	178,561	7·03	380,355	14·99	93,275	3·67	224,025	8·83	Entered under Coaching.	—	3,337	·15	265	·01	1,903	·07	1,167	·04	151,699	5·97	1,035,592	3·39
„ (Jubbulpore Line)	23,104	13·52	63,936	37·42	6,643	3·89	13,272	7·77	Entered under Coaching.	—	23	·01	12	·007	87	·05	-	.01	10,339	6·05	117,448	5·72
Great Indian Peninsula	291,307	24·64	326,394	27·61	86,020	7·28	45,253	3·83	143,578	12·15	3,813	·32	3,478	·29	*Cr.* 844	*Cr.* ·07	2,743	·23	65,645	5·55	967,427	6·82
Madras (South-west Line)	93,701	19·71	74,890	15·86	6,340	1·34	11,181	2·38	21,239	4·51	291	·06	—	—	14	·00	49	·01	13,238	2·60	218,643	3·87
„ (North-west Line)	9,987	6·75	23,566	15·26	2,016	1·36	1,978	1·34	6,119	4·14	94	·06	—	—	1	·00	1	·00	15,214	10·29	57,976	3·27
Bombay, Baroda, and Central India	*101,069	30·51	81,875	24·71	36,766	11·09	15,366	4·64	22,606	6·82	2,877	·86	51	·01	1,390	·41	1,027	·31	72,181	21·79	335,208	8·43
Scinde	17,159	35·47	20,573	42·52	2,437	5·04	12,684	26·21	Entered under Coaching.	—	26	·05	—	—	1,239	2·56	22	·04	7,205	14·89	61,345	10·57
„ Punjab	20,741	16·99	30,995	25·20	4,039	3·28	17,680	14·37	Entered under Coaching.	—	22	·01	—	—	1,039	·84	97	·07	24,773	20·14	99,386	6·73
„ Delhi	3,616	2·07	36,535	20·89	1,703	·98	27,863	15·94	Entered under Coaching.	—	—	—	—	—	344	·20	34	·02	10,194	5·83	80,294	3·83
Great Southern of India	13,634	10·97	15,802	12·72	2,645	2·12	5,227	4·20	Entered under Coaching.	—	799	·64	—	—	33	·02	19	·01	6,284	5·05	44,443	2·97
Eastern Bengal	18,467	12·13	23,502	15·43	3,887	2·55	16,164	10·62	8,290	5·45	1,250	·82	—	—	567	·33	—	—	8,532	5·60	80,599	4·41
Oude and Rohilkund (Main Line)	2,808	10·71	5,906	22·52	1,267	4·83	4,422	16·86	Entered under Coaching.	—	—	—	100	·38	107	·40	3	·01	2,790	10·64	17,403	5·53
„ „ (Nulhatee Line)	1,214	12·73	1,559	16·35	687	7·20	842	8·83	Entered under Coaching.	—	—	—	—	—	—	—	—	—	743	7·79	5,045	4·40
Indian Tramway (now Carnatic)	1,059	8·83	1,124	9·37	68	·57	673	5·61	142	1·20	—	—	—	—	—	—	—	—	842	7·02	3,910	2·71
Calcutta and South-eastern (State)	3,103	23·33	2,636	20·19	229	1·72	2,309	17·36	Entered under Coaching.	—	172	1·29	—	—	—	—	1	·007	2,278	17·12	10,778	6·75
Totals	778,530		1,088,898		248,027		600,920		Under Coaching.		13,204		3,906		5,855		5,200		390,957		3,135,497	4·72

* Of this 34,000*l.* was expended in repairs rendered necessary by the extending floods in 1868.

Receipts and Expenses per Train Mile for the Years 1867–68 and 1868–69, ending 30th June.

Railway.	Gross Receipts.		Expenses.																				Net Receipts.	
			Maintenance.		Locomotive.		Rolling Stock.		Traffic.		Rates and Taxes.		Personal Compensation.		Compensation for Damages.		Legal.		Miscellaneous.		Total.			
	1867–68.	1868–69.	1867–68.	1868–69.	1867–68.	1868–69.	1867–68.	1868–69.	1867–68.	1868–69.	1867–68.	1868–69.	1867–68.	1868–69.	1867–68.	1868–69.	1867–68.	1868–69.	1867–68.	1868–69.	1867–68.	1868–69.	1867–68.	1868–69.
	s.	*s.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*s.*	*s.*	*s.*	*s.*
East Indian :—Main Line	8·1	8·8	11·3	7·4	16·4	15·7	4·	3·9	8·8	9·	·17	·12	·005	·01	·11	·1	·04	·03	7·9	5·6	·4	3·5	4·1	5·3
„ Jubbulpore Line	*	6·	*	16·	*	38·6	*	3·9	*	9·1	*	·03	*	·01	*	·1	*	·02	*	6·3	*	6·2	*	†
Great Indian Peninsula	9·8	10·2	17·8	22·1	29·	28·4	5·7	6·5	14·9	14·4	—	·03	·4	·8	·16	·8	·07	·42	6·8	5·1	6·2	6·5	3·6	3·7
Madras :—South-west Line	7·	7·	13·4	14·7	13·3	15·	1·3	1·3	6·6	6·9	·05	·06	—	—	·01	·003	·02	·001	2·6	2·4	3·1	3·3	3·9	3·7
„ North-west Line	9·	8·4	7·3	8·7	13·4	13·5	1·4	1·3	5·4	5·2	—	·06	—	—	—	·001	—	—	10·5	10·1	3·2	3·2	5·8	5·2
Bombay, Baroda, and Central India	11·6	12·5	27·6	22·3	30·9	31·7	11·5	8·3	14·4	19·8	·2	·32	—	·001	·7	1·68	·6	·2	12·1	19·9	8·2	8·7	3·4	3·8
Scinde	10·4	15·1	23·1	29·3	39·5	42·1	4·4	6·6	21·	29·6	—	—	—	—	—	·8	·16	·14	10·2	14·7	8·2	10·3	2·2	4·8
Punjab	5·2	6·1	9·7	14·3	16·6	21·5	1·	1·6	10·3	12·3	·12	·04	—	—	·08	·4	·01	·06	8·4	14·8	3·9	5·4	1·3	0·7
Delhi	3·8	5·9	·0	2·4	31·3	21·9	2·3	0·9	25·8	14·8	—	·01	—	—	·2	·2	—	·002	9·9	6·	5·8	3·8	‡	2·1
Great Southern of India	4·7	4·7	5·3	6·1	13·5	12·8	2·7	2·7	3·8	4·	—	·15	—	—	—	·04	—	·006	1·9	3·9	2·2	2·5	2·5	2·2
Eastern Bengal	8·5	9·2	10·7	12·7	13·	15·	3·1	2·4	11·5	16·4	·11	·13	—	—	·9	·2	·14	—	10·5	5·8	4·1	4·4	4·4	4·8
Oude and Rohilkund, Main Line	7·3	7·2	1·5	11·2	18·1	27·4	4·8	4·7	17·	17·6	—	—	—	·38	·06	·3	—	—	—	16·	5·3	6·4	2·	0·8

Average gross receipts, 1867–68, 8·5*s.*; 1868–69, 9·5*s.*
Average gross expenses, „ 5·4*s.*; „ 5·8*s.*

* Not stated.

† This year there was a deficit of 0·2*s.*

‡ This year there was a deficit of 2*s.*

MISCELLANEOUS.

Weights and measures.

56. The inconveniences arising out of the diversity of weights and measures in India have long been felt, and railways have helped, by the more frequent dealings which they have occasioned between different parts of the country where variations exist, to expose the evil. After much discussion on the subject in India, the Government came to the conclusion that it would be better in the first instance to confine any alteration to the system of weights, leaving the question of measures for future consideration, and that, instead of adopting the English system, it would be preferable that the new unit of weight should be a seer, equal to the kilogramme of 2·205 lbs. avoirdupois, and that a system of decimal multiples and subdivisions should form a fundamental part of the new scale. An Act has been passed by the Indian Legislature to give effect to this conclusion, and the early adoption of the kilogramme as the unit of weight on Indian railways may be expected.

Volunteer force.

57. It has been mentioned in a former report that a Volunteer force had been formed by the officers and men of the East Indian Railway staff. During the year its numerical strength increased from 404 to 844.

EAST INDIAN RAILWAY.

Chord line.

58. The only portion of this undertaking which remains to be brought into use is the Chord line, and this will be ready for public traffic by October next.

Profits.

A capital of about 2,250,000*l.* will then be made productive. The earnings of the Main line have been applied towards paying the guaranteed interest on the sums expended upon the Chord line during its construction. Notwithstanding this, however, and that 20,000*l.* had to be paid out of the profits of the half year ending the 30th June, for interest on advances made by the Government in a previous year, as well as 10,000*l.* to meet the deficient earnings of the Jubbulpore line, surplus profits over 5 per cent. were realised by the Main line, and a sum of 16,26,109 rupees was divided between the Government and the Company. This success was as much due to the economical working of the line as to its increased receipts. While the earnings per train mile increased from 8·1*s.* to 8·8*s.*, the expenses diminished from 4·0*s.* to 3·5*s.* The total expenditure amounted to only 41·72 per cent. of the gross receipts.

Junction with Great Indian Peninsula Railway.

59. The completion of the Great Indian Peninsula Railway to Jubbulpore, where it joins the East Indian Railway system, will have a beneficial effect upon this Company's operations, which have necessarily been seriously checked by the abrupt termination of the Jubbulpore line in the centre of India.

GREAT INDIAN PENINSULA RAILWAY.

Opening of line to Jubbulpore.

60. The great event connected with this Company's system has before been alluded to, viz. the completion of through communication between Bombay and Calcutta as well as the North-west of India by the opening of the line to Jubbulpore. Great efforts had been made by the Company's officers at the instance of Government to push on and finish the works so as to enable His Royal Highness the Duke of Edinburgh to be present at the ceremony of opening the line. This, as previously stated, took place on the 7th March last, when the Viceroy and the Duke and other distinguished visitors joined in doing honour to the occasion.

South-eastern branch.

61. The length thus added to the open line was 241 miles. In the early part of last year 70 miles on the South-eastern Branch, extending from Sholapoor to Koolburga, were also opened for traffic, leaving about 88 miles to Raichore to complete the Company's system. It is expected that this section, with the exception of the bridge over the Kistna river, will be ready for opening this year.

Khamgaon line.

62. The small branch of about 8 miles from Jhellum, on the Nagpore branch, to Khamgaon, constructed by the Government from the Berar revenues, is being worked by this Company. Another similar branch to Oomrawuttee is also about to be laid down by the Government, the funds being supplied in a similar manner. Arrangements have likewise been made with Maharajah Holkar for constructing a branch from the North-east line of this railway to Indore; and

Indore line.

Hyderabad line.

with the Nizam for taking a line from Koolburga, above mentioned, to Hyderabad.

All these will promote the interests of the Great Indian Peninsula Railway by bringing important commercial places as well as the capitals of two progressive Native States into communication with it.

63. The traffic returns for last year cannot be regarded as satisfactory. There has been a falling-off both in passengers and merchandise, and the expenses for maintenance and working have increased. These results are due in some measure to the depressed state of trade. The falling-off in the cotton traffic alone during the last half year amounted to 2,66,669 rupees, or at 1*s.* 10*d.* the rupee, 23,611*l.*, as compared with the corresponding period of 1868. Traffic.

MADRAS RAILWAY.

64. A length of thirty miles was added to the open portion of this railway during the year, and the works in continuation of the line towards Raichore, where it is to meet the Great Indian Peninsula Railway, are progressing towards completion. The large bridge over the Toongabuddra river, which consists of 58 girder openings of 70 feet each, is described as a very fine work, and as having been skilfully and substantially executed. It will be finished in the course of this year. Increase of line.

65. The only remaining portion of this Company's works will then be the branch from Coimbatoor on the South-west line to the foot of the Neilgherry Hills, upon which operations have begun.

66. On the 22nd March His Royal Highness the Duke of Edinburgh crossed the peninsula from Beypore to Madras by this railway in 12½ hours, a distance of 406 miles, an hour and a half having been spent in stoppages for refreshment, &c.

67. The traffic was injuriously affected by the stagnant state of trade and by outbreaks of cholera in certain districts. Traffic.

BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY.

68. The extension of this line from Ahmedabad over the Saburmuttee river was completed this year. Its continuation to Veerumgaum and Wudwan has also been decided on and a new contract was made with the Company for carrying it out. The plans and estimates have been prepared, and a commencement will be made with the works as soon as the orders of the Government of India are given. The permanent way material has been ordered. Wudwan Extension.

69. It was mentioned in last year's report that Mr. Hawkshaw had been asked to give his opinion as to the strength of the bridges on this line and their suitability for the rivers over which they are taken. It will be recollected that in one or two instances they had been damaged by floods. Mr. Hawkshaw's opinion is that the bridges are economical in design for situations to which they are adapted, but he considers that the spans are too small and the columns too high for rivers of great depth and for those which bring down trees and drift-sand, as the Taptee and Nerbudda do. Their failure he attributed to inherent weakness of structure, and recommended the continuation of the remedial measures which had already been taken; but he suggested, that to be perfectly and permanently secure, cylinders should be substituted for screw piles. Bridges.

70. The Bombay terminus of this railway has at length been fixed at the gun carriage site at Colaba. The capital expenditure on the original line will now be confined to the works of this station and to the strengthening of the bridges. Bombay terminus.

71. The traffic during the past year has increased both in passengers and goods, but the working and maintenance charges have been very high, amounting to 77·70 per cent. of the gross receipts. Considerable reductions have been made in the establishment and other expenses, which will tell favorably upon future traffic. Traffic.

SCINDE, PUNJAB, AND DELHI RAILWAY.

72. The four different undertakings which have hitherto comprised this Company's system will, in future, form one concern, under the title above given. Authority for the amalgamation was obtained from Parliament last session, and the contract carrying it out has been formally concluded between the Government and the Company. The line of communication in the hands of the Company extends from Kurrachee to Delhi, viâ Kotree, the river Indus to Moultan, Lahore, Umritsir, Umballa, and Meerut, a distance in the whole of about 1,150 miles. It is in contemplation Amalgamation.

Indus Valley line. to substitute a railway for the flotilla, which now conducts the traffic on the river, and surveys are being made, under the orders of Government, to ascertain the best route for a railway along the valley of the Indus.

Delhi line. 73. The works on the Delhi section have been carried on with vigour, and a few miles only, between Loodianah and Umritsir, remain to complete the whole line. The river Sutlej occurs on this portion, and it has been necessary to lengthen the bridge over it in consequence of its having shifted its course since the line was laid out.

Damage by floods to Scinde line. On the Scinde line further trouble has been occasioned by the violent flood of the Mulleer river; the viaduct over it, which was carried away by the force of the floods in 1866, has a second time been seriously injured. After the former disaster, it was re-erected with larger openings, obtained not by widening, but by raising the piers on which the girders rested. The flood occurred on the 12th September, and seven out of twenty-one spans were washed away. To shew the rapidity with which the floods subside, as well as rise, I may mention that the line was actually relaid upon the dry bed of the river within a fortnight after the bridge had been swept away. Mr. Bidder, the consulting engineer to the Company, recommends that instead of reconstructing the viaduct, the line should be lowered so as to allow future floods to pass over it.

Floating dock. 74. The floating dock for the flotilla, which was sent out from England, was erected at Kotree, and successfully floated in July last, under the supervision of Captain Wood, the agent. This dock is 300 feet long, 80 wide, and has a draft of $12\frac{1}{2}$ feet, and cost 25,000*l*. It is, I believe, the first floating dock that has been introduced into India.

Traffic. 75. The traffic during the year has suffered from the stagnation of trade, and the disjointed character of the lines. The completion of the line between Umritsir and Loodianah, and the connexion thereby of the Punjab with Delhi and Central India, will, it is hoped, produce a considerable increase in the commercial relations between those provinces.

Bray arbitration case. 76. The arbitration case, in which this Company was engaged, in consequence of an action brought against them by Mr. Bray, the contractor, has not yet been finished. The evidence on both sides has, however been concluded, and it remains only for the counsel on either side to make their concluding speeches, and then for the arbitrator to make his award. When this will take place I am unable to say. The case has continued now for more than nine years, and on the side of the Company alone, nearly 26,000*l*. have already been expended. A better example of the dilatory and altogether unsatisfactory nature of this kind of tribunal could hardly, perhaps, be adduced.

EASTERN BENGAL RAILWAY.

Goalundo extension. 77. The opening of the extension line to Goalundo has been delayed by the damage done to the bridge works on the Goraie river by a violent storm in June last, described in a former part of this report. The cylinder which was lost has been replaced, and the works have been carried on with energy by Mr. Leslie, the chief engineer, who expects to have them finished and the line ready for opening by November next.

Darjeeling extension. 78. Surveys are being made for proposed extensions of this line higher up the river Ganges, and towards Darjeeling.

Traffic. 79. The traffic, like that on other lines, has suffered from the condition of trade.

GREAT SOUTHERN OF INDIA RAILWAY.

Tuticorin extension. 80. It has been decided during the year to extend this Company's operations, by continuing the line in a southerly direction to the port of Tuticorin. This will more than double the size of the undertaking, which formerly consisted of 168 miles, and now of 378 miles. Nothing further than surveys has yet been done. The Company having entered into a fresh contract with the Secretary of State in Council, have raised the necessary capital, appointed a staff of engineers, and provided the permanent way, and are now only awaiting orders from the Government of India to begin the work of construction with vigour. They hope to complete it at the rate of 7,000*l*. per mile.

Traffic. 81. The traffic on the open line during the year has been nearly stationary, compared with the previous year.

OUDE AND ROHILKUND RAILWAY.

82. Almost all the lines comprised in this system are now in hand. There has been delay in commencing some of them, but the works are light, with the exception of two or three bridges, and there is every disposition on the part of the company and its officers to proceed vigorously and rapidly with their execution, so that good progress may be expected during the year. One hundred miles in addition to the line between Cawnpore and Lucknow are expected to be opened early next year. The branch to the Kumaon Iron Works has not yet been commenced, but it has been decided to take it from Moradabad, and the survey of it as far as Ramnuggur has been made. The permanent way and iron girders for the bridges are being despatched to India, besides a sufficient supply of locomotives and rolling stock for 300 miles, and a contract has been made with a firm in this country for the erection in India of the superstructure of the bridge across the Ganges at Cawnpore. Nearly 48,000 tons of materials have been shipped from England during the year and have been conveyed up country, the greater part by the Eastern Bengal Railway and the river steamers, the rest by the East Indian Railway, to their destination. Progress or new lines.

83. The traffic receipts on the open line have been low in consequence of the general depression throughout the Province from famine and trade. Traffic.

CARNATIC RAILWAY.

84. A contract has been entered into with this company for the conversion of their light narrow gauge railway between Arconum and Conjeveram into a 5 ft. 6 in. line, and for extending it to Cuddalore. Capital to the extent of 800,000*l.* has been issued, and surveys and plans are being made by the company's officers in India.

STATE LINES.

85. The State lines at present consist of the "Calcutta and Canning Railway," which was purchased from the Calcutta and South-eastern Railway Company, the Northern Punjab Railway, and the Jhellum and Khamgaon; but the Government have also commenced surveys for lines in Rajpootana, for one between Karwar and Hooblee, for the Indus Valley, and for a short branch to Oomrawuttee from the Great Indian Peninsula Railway.

CALCUTTA AND CANNING RAILWAY.

86. This line was worked by the Eastern Bengal Company for Government up to February last, when it was placed in the hands of Major F. S. Taylor, R.E., who has introduced a new system of working arrangements, after the American fashion, whereby he thinks the expenses will be reduced and the traffic more efficiently conducted. Its main features, Major Taylor says, are these:—"1st. The running "of the trains to be regulated solely by the traffic superintendent from head-"quarters, and the station masters throughout the line have been superseded by "booking clerks, who, in most instances, are now also telegraph signallers. "2nd. The trains are worked by a competent conductor, who is responsible for "and does the shunting, the pointsmen and signallers at the road-side stations "having been abolished with the station masters and semaphore signals." These arrangements are of course only adapted to lines where the traffic is small, and where speed is no object; but it is always the mark of good management to suit the means to the end. Reductions have also been made in the rates and fares, and there are only two classes of passenger carriages, the charges being nine and three pies per mile. New system of working. Reduction of fares.

NORTHERN PUNJAB RAILWAY.

87. The surveys of this line between Lahore and Jhelum have been completed, and construction has commenced on 100 miles. The surveys beyond Jhelum, between that place and Rawul Pindee, are now approaching completion. Designs and estimates have been prepared of the three great bridges over the Ravee, Chenab, and Jhelum. Mr. Lee Smith is now in this country with the plans, and contracts for the iron works are about to be made. The bridges are to consist

of two parallel girders, carrying the railway, which is also to be used as a carriage way above and a footway between. Permanent way for 100 miles has been sent out. It has been decided to appropriate half of the Grand Trunk Road to the railway, except where the nature of the country makes diversions desirable; but these exceptions do not occur for any great distance. The present rough estimate of the cost of this line is about 3,000,000*l.*

JHELLUM AND KHAMGAON.

88. This line, which proceeds from Jhellum on the Nagpore branch of the Great Indian Peninsula Railway to Khamgaon, a great cotton mart in Berar, is about eight miles in length, and was constructed by the Government out of the Berar revenues. It was begun in June last, and was opened by the Viceroy, in the presence of His Royal Highness the Duke of Edinburgh, in March. No account of its exact cost has been received, but it has been put down at 40,000*l.* The outlay was increased by the rapidity with which the work was executed, the operations being conducted during the rains. An additional expense was also incurred by borrowing permanent way from the Oude and Rohilkund Company, the carriage of which from Calcutta added, it is estimated, 4,000*l.* to the cost. The line is now being worked by the Great Indian Peninsula Railway Company.

89. Another small branch, similar to this, is also about to be made by the Government from the Great Indian Peninsula Railway to Oomrawuttee. It will be 6½ miles in length, and is estimated to cost 5,000*l.* a mile.

KARWAR AND HOOBLEE.

90. The surveys which were made for this line by Mr. Buchanan were not encouraging as regards its cost, which he estimated at 20,000*l.* a mile. The ascent of the ghâts, as proposed by Mr. Buchanan, would be obtained by an incline 4 miles 8 chains in length, with a gradient of 1 in 17, with the exception of 12 chains, which is level. For 50 miles out of its length of 95 miles, the line runs through dense jungle. Under these circumstances, the Secretary of State came to the conclusion that unless the result of the further surveys now being made were more satisfactory, "there will be no alternative but to give up all im- "mediate idea of a railway, or, as the Government of India suggest, to adapt the "line generally to slow speeds and small trains." It is probable that a narrow gauge and a lighter system will at any rate be thought advisable.

SUMMARY AND CONCLUSION.

Mileage and cost.

91. There are now 4,628 miles of railway open in India, which have cost about 79,000,000*l.* The exact amount can hardly be given; but it must be borne in mind that the expenditure of 84,200,000*l.*, which had been incurred to the end of the year, represents not only the open portion but many miles still in course of construction. During last year 261 miles were opened for traffic, and 347 miles have been added since. The latter included that portion of the Great Indian Peninsula Railway which completes the great transpeninsula line between Bombay and Calcutta, and also the first line, viz., from Jhellum to Khamgaon, which has been undertaken and completed by the State.

Capital.

92. The amount of capital raised by the companies during the year ending the 31st March was 4,269,252*l.*, and there was a balance of 3,202,119*l.* to their credit at the beginning of the year. They have expended 4,393,027*l.*, and it is estimated that during the present year they will expend 5,021,800*l.*, and the Government 1,229,800*l.*

Shipments.

93. Materials to the amount of 211,750 tons, which cost 1,432,784*l.*, have been despatched from this country during the year, making, with the shipments of former years, a total amount of 3,929,799 tons, of the value of 26,484,919*l.*, that has been sent to India for the railways.

Stock.

94. The locomotive and rolling stocks now consist of 1,174 engines, 3,113 passenger carriages, and 22,393 trucks and wagons.

Proprietors.

95. The number of shareholders on the 31st December last was 48,793; and there were 7,624 debenture holders. Of the proprietors of shares 47,985 were in England and 808 in India, 394 of those in India being natives.

96. The accidents during the year present a heavier list than usual. Thirty-one passengers were killed, being 1·87 per million of tickets issued. Two accidents alone occasioned the death of 30, one on the Great Indian Peninsula in January 1869, when 19 were killed and 42 injured, and one on the Bombay and Baroda in June, when 11 were killed and 7 hurt. Casualties.

97. The number of passengers was 16,011,633, compared with 15,066,530 in the previous year; the third class being 15,247,516, as against 14,401,000. The train mileage was 12,318,086 last year, and 11,980,319 the year before. Passengers.

98. The gross receipts last year were 5,709,382*l.*, as compared with 5,320,723*l.* of the previous year, and the net receipts 2,520,952*l.*, compared with 2,522,622*l.* The railways were thus earning, last year, at the rate of about 3*l.* 4*s.* 6*d.* per cent. per annum on the capital expended on them; 1,380,000*l.* short of the guaranteed interest payable on such expenditure, and 1,412,919*l.* less than the amount paid for guaranteed interest on the whole capital raised, including that employed on unopened lines and the unexpended portion as well. Revenue.

99. The time is now not far distant when the capital accounts of most of the guaranteed lines will be free from any considerable additions. This cannot but be regarded as a satisfactory feature in the position of the affairs of these railways. When there is no longer a large amount of expenditure yielding no return, and when the annual average outlay on maintenance and working expenses is reduced from 60 and 70 per cent. of the gross receipts, which it has been in some cases during the past year, to 41·72 per cent., as it was on the East Indian Railway, hopes may fairly be entertained of the financial success of the system. About certain undertakings there can already be no doubt. Future prospects.

100. It is now just 20 years ago since the first sod of an Indian railway was turned. At that time it was decided to confine operations to two small experimental lines, 150 miles in length, one of 120 miles in Bengal, the other of 30 in Bombay. In four years these were opened, but before that time arrived, Lord Dalhousie, then Governor-General, had proposed, and the home authorities had approved of, the system of railways which is now approaching completion. At first only three Companies were employed to carry out works in each Presidency; but subsequently other lines were grafted upon the original system and additional Companies were formed. Thus there are now nine Companies engaged in constructing and working railways in India. Progress of lines.

101. With regard to the future extensions contemplated, many of which the Government propose to undertake without the intervention of Companies, although the main channels of communication have been provided with railways by the present system, the experience which has been gained in regard to the execution of works of this kind and the best mode of obtaining materials for them, as well as the improved and cheaper means of conveying the permanent way and stock to their destination, furnish good ground for the expectation that, under a properly organised system of management, well selected lines will be laid down at much less cost than the existing ones, and will be profitably worked, whether they are constructed upon the standard gauge or a narrower one. Future extensions.

I have the honour to be,
My Lord Duke,
Your Grace's very obedient humble servant,
JULAND DANVERS.

APPENDIX.

APPENDIX A.

From Captain H. W. Tyler to the Board of Trade.

Sir, 1, Whitehall, 4th March 1870.

I have now the honour to report, for the information of the Board of Trade, that, in compliance with the instructions in your Minute of the 8th ultimo, I attended certain experiments on the 11th, 12th, 14th, and 15th ultimo on the Festiniog and Mid-Wales Railways.

The object of these experiments was to test the capabilities of the Festiniog Railway, which has a gauge of rather less than 2 feet; and also the powers and comparative steadiness of double bogie engines, such as have been designed by Mr. Fairlie, both on the Festiniog Railway and on the ordinary gauge of 4 ft. 8½ in.

The trials were made in the presence of various members of an Imperial Commission, under the Presidency of Count Alexis Bobrinskey, who visited England for these special purposes, as well as of His Grace the Duke of Sutherland, and numerous others from various countries, including Major-General Sir William Baker, R.E., and Mr. Thornton and Mr. Juland Danvers from the India Office.

I beg to enclose herewith detailed statements of the experiments, in the form of the original documents, drawn up by myself in the presence of those who witnessed them, and containing descriptions of the engines employed.

As regards the Festiniog Railway, they quite bore out what I stated in regard to it in my reports to the Board of Trade six or seven years since, previously to its being opened for passenger traffic, and those contained in a paper which I subsequently read at the Institution of Civil Engineers. The amount of traffic which can be economically carried upon this little railway, and the speed at which it can be conveyed round curves which would be absolutely impracticable under the ordinary system of railway working, render it a most instructive example, showing how, by a reduction of gauge, adaptation of rolling stock, and judicious arrangements, cheap railways on narrower gauges may be advantageously constructed in our colonies, in foreign countries, and even in parts of the United Kingdom. The precise gauge in such cases should, however, be suited to the local circumstances of each particular locality, and must depend upon various considerations which it is not necessary here to detail.

When the Festiniog Railway was first opened for passenger traffic, the Board of Trade, on my recommendation, made it a condition that the speed should be limited to 10 or 12 miles an hour. And this was done on account of the narrowness and lowness of the works, the condition of the permanent way, and the novelty of the system of applying locomotive power to so narrow a gauge. Since that time the permanent way has been materially improved, and the greater part of it has been relaid with heavier rails, fished at the joints. The system has also been thoroughly tested, and there appear to have been no accidents to passengers. But the narrowness and lowness of the works remain, and this is now the weak point of the line.

At certain bridges on the line, and other places, extra height and width might, apparently, without so much difficulty or expense, be afforded, and the Company would do wisely in making such improvements, as far as practicable; but the enlargement of the tunnels, and of the width in certain other places, would, no doubt, be very costly.

The speed appears to have been increased from time to time, as the permanent way has been improved, and it would now, I think, be only right to release the Company from the obligation which was imposed upon them in this respect, on their first opening for passengers. As they have hitherto conducted the traffic with safety to the public for so many years, the question of speed might now properly be left to their own discretion, not with the idea that they are to run their passenger trains at the comparatively high speed of which the little line has so curiously shown itself to be capable, under the system of low centres of gravity, which has so wisely been adopted for the rolling stock, but with confidence that they will keep well within that speed, and allow ample margin for all contingencies, such as cannot always be foreseen, even under the most careful management.

As regards Mr. Fairlie's double bogie engines, the experiments have shown, not only that the principle upon which they are designed, 1st, of reducing wear and tear and friction by the employment of the bogie system; 2nd, of conveniently accumulating the weight upon the wheels, so as to make all the wheels into driving wheels; and, 3rd, of providing engines which can run in either direction with equal safety,—are sound, but also that the narrower the gauge the more profitably they can be employed for through traffic.

I have, &c.
(Signed) H. W. Tyler.

The Secretary, Railway Department,
Board of Trade.

APPENDIX B.

Preliminary Memorandum for Guidance of Officers appointed to draw up Projects of proposed State Railways.

The lines should be designed for a traffic worked at a moderate speed, say not exceeding 15 miles an hour, and as respects the substructure and way, they should be first class, solidly-constructed railways, on the standard 5 feet 6 inches gauge, but throughout, and with no exception, for a single tract only.

2. This limitation will not prevent consideration of the expediency of laying in the foundations of any particular work for a double tract, but any case in which that course may seem proper will have to be separately brought forward.

3. Everything should be designed from the first to suit the working on a single line, special arrangements for crossings between stations being, if necessary, made.

4. Economy of first outlay is to be studied to the utmost in all the adjuncts, and to this end, station buildings, &c. should be of a simple and inexpensive character, the accommodation being restricted to the expected present wants of the traffic. Raised platforms should be dispensed with excepting only at principal or terminal stations where a large passenger traffic may be expected.

5. Buildings likely to be subjected to the vibration caused by trains or engines in motion should be built in a perfectly solid manner with the best lime morter; but other buildings may commonly be constructed in a less costly manner, with burnt or half-burnt brick and mud, with foundations in lime only, or otherwise, so as to secure economy to the utmost, while the essential object of the work is obtained.

6. All buildings to be used as residences during construction, should, wherever possible, be placed so as to admit of their being utilised, when the line is opened, as stations or quarters for the permanent railway staff. If this cannot be arranged, these buildings should be of the most temporary nature possible, so as to last their purpose, but nothing more.

7. As respects costs, the essential point to be borne in mind is, that the road and the machinery for working it shall be first class; but that in every other particular the bare necessities only of the traffic shall be provided for without indulging in luxuries or comforts, which may be postponed till demanded by the traffic.

8. The formation width for a single line should not exceed 18 feet in bank and 24 feet in cutting, and in difficult ground, or where the soil will admit of a reduction without inconvenience, these widths may be reduced by at least 2 feet.

9. Where the track is double the formation may be increased by 12 feet, subject, however, to a greater width than this allows between tracks in stations.

10. The width of ballast at sleeper level should not exceed 10 feet; depth below sleepers, 12 inches.

11. The width of bridges and culverts should be reduced to a minimum, say 10 or 12 feet, consistantly with true economy when in bank. Large bridges may be simply wide enough to carry the rails, with footways on either side for maintenance purposes, unless the combination of an ordinary roadway be determined on.

12. A ruling gradient of $\frac{1}{300}$ should be aimed at. When circumstances make the adoption of a more severe gradient expedient either exceptionally or generally, throughout a line, they should be specially represented for orders. In every level country a ruling gradient of $\frac{1}{500}$ may be adopted.

13. Curves should not, as a rule, be of sharper radius than 2,500 feet, except in the vicinity of stations. When demanded in other places by the features of the ground, the circumstances should be specially represented for orders.

14. Fencing should be estimated for, but it is probable that a change in the law may allow of its being limited, when slow speeds are adopted, to the vicinity of stations and other places where absolutely necessary.

15. The telegraph will be arranged for through, or in communication with, the Government telegraph department, but it should be included in the estimates.

16. Rules as to taking up of land, and as to scales for both preliminary and final location surveys, will shortly be published.

17. The questions of rolling-stock, character of permanent-way, designs of stations and other buildings, provision of workshops, &c. will be considered hereafter, and separate instructions will be issued regarding them. The matter calling for first consideration is the formation of the road, and it is to this that attention should now be mainly given.

26th October 1869.

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REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1870-71.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

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REPORT.

To His Grace the DUKE OF ARGYLL, K.T., Secretary of State for India.

MY LORD DUKE, India Office, 1st June 1871.

I HAVE the honour to lay before your Grace the following report on Railways in India for the year 1870–71.

2. At the commencement of the year 1870 a length of 4,283 miles of Railway was open. During the year 557 miles were added. Since the beginning of the present year a further extent of 211 miles has been finished; so that at the present time the total length of Railway open in India is 5,051 miles, of which 710 are constructed with a double line. Progress during year 1870.

3. The most important section completed during the year was that from Sohagpore to Jubbulpore on the Great Indian Peninsula line, by means of which railway communication between Bombay and Calcutta was established, but the opening having taken place early in March was mentioned in my report of last year. Next in importance to this event in the railway annals of the year was the completion of the whole length of Railway between Calcutta and Lahore by the opening of the last remaining section on the Delhi and Punjab line.

4. Since the end of the year, the lines from Bombay in a south-easterly direction, and from Madras in a north-westerly direction, have met at Raichore, the point of junction fixed upon, and a train service has been established between those two presidencies. Thus may the system of trunk lines for India, originally laid down by Lord Dalhousie, be regarded as completed. The three presidency towns are united, and the north-west frontier has been brought into railway communication with the southern portion of the peninsula. Commencing at Negapatam, the most southern terminus of the present Madras system, and proceeding by Bombay, Jubbulpore, Allahabad, and Lahore, to Moultan, on the Indus, a continuous length of about 2,800 miles of railway has been formed. The extension line of the Eastern Bengal Railway, which terminates at Goalundo, at the confluence of the Ganges and Brahmapootra rivers, was opened by the Viceroy on the last day of the year. It will form a valuable addition to the original line, as much of the up-country traffic which formerly went on these rivers will now flow to the railway. Since the end of last year the chord line of the East Indian Railway has also been opened for traffic. A saving of 65 miles in the journeys from Calcutta to the north-west and to Bombay is effected by this route, and great facilities are given for making the coal of the districts through which the line passes available for this and other railways in Upper India. Completion of Lord Dalhousie's system of trunk lines.

5. The following statement furnishes particulars as to the length of each undertaking, and its progress towards completion: Length of lines.

	Railway.	Gauge.	Length sanctioned.	Length opened during 1870.	Length opened since Dec. 1870.	Total Length opened.	Portion laid with Double Line.	Length remaining to be finished.
Guaranteed.	East Indian – Main line	5′ 6″	1,278	—	147	1,278	399	—
	East Indian – Jubbulpore line	5′ 6″	224	—	—	224	—	—
	Great Indian Peninsula	5′ 6″	1,272	385	15	1,272	287	—
	Madras	5′ 6″	862	76	49	832	—	30
	Bombay, Baroda and Central India	5′ 6″	391	—	—	312	18½	72
	Scinde, Punjab and Delhi	5′ 6″	674	43	—	674	5	—
	Great Southern of India	5′ 6″	378	—	—	168	—	210
	Eastern Bengal	5′ 6″	159	45	—	159	—	—
	Oude and Rohilkund	5′ 6″	733	—	—	42	—	679
	Carnatic	3′ 3⅜″	100	—	—	19	—	81
Unguaranteed:								
State.	Nulhuttee	4′ 0″	27½	—	—	27½	—	—
	Calcutta and South-eastern	5′ 6″	28	—	—	28	—	—
	Khamgaon	5′ 6″	8	—	—	8	—	—
	Oomrawuttee	5′ 6″	7½	7½	—	7½	—	—
	Goolburga to Hyderabad	5′ 6″	116	—	—	—	—	116
	Punjab Northern	3′ 3⅜″	270	—	—	—	—	270
	Indus Valley	3′ 3⅜″	500	—	—	—	—	500
	Rajpootana	3′ 3⅜″	370	—	—	—	—	370
	Indore to Khandwa	3′ 3⅜″	84	—	—	—	—	84
	Total		7,482	556½	211	5,051	709½	2,431

Progress on State lines.

6. Much progress has not at present been made on what are termed the State lines, viz., those which the Government of India has determined to construct under its own immediate supervision, without the intervention of companies. A small branch

Oomrawuttee.

from the Great Indian Peninsula Railway to the cotton mart of Oomrawuttee, of 7½ miles in length, has been opened, making the second line of this description which has been constructed by Government in the Central Provinces; but the line

Punjab Northern.

from Lahore towards Peshawur has not been advanced beyond laying it out as far as Jhelum, a distance of 102 miles. Delay in proceeding with the works in this undertaking has been occasioned by the proposal to alter the designs, which had been prepared for the standard gauge, and to adapt them to the narrow gauge. Now that this question has been settled in the affirmative, new plans are being made, and operations will commence in earnest. It is estimated that 200,000*l.* will be expended on this line during the present year. The total cost of the whole, which is 270 miles in length, will be about 3,000,000*l.*

Indus Valley.

7. The Indus Valley Railway is also to be constructed on the narrow gauge. Its northern portion has been laid out, and is about to be commenced. This starts from a point six miles west of Moultan on the Punjab Railway, and runs through Shoojabad and Bhawulpore to Sukker. The lower division extends from that place to Kotrée, and is beset with difficulties arising from inundations. A committee is investigating the route on either side of the river, and will report which they consider to be the more favorable for the construction of a railway.

Rajpootana.

8. With regard to the projected railways in Rajpootana, lines have been surveyed from Agra to Ajmeer, viâ Jeypoor and Sambhur, 236 miles, and from Delhi viâ Rewaree and Tellour, 125 miles, to join the above, with a branch of eight miles to the Salt Works. Operations have commenced on the line between Delhi and Rewaree, which will involve an outlay of 50,000*l.* during the present year. The

Indore.

line to Ajmeer will probably be taken, ultimately, on to Indore, from which place to Khundwa, on the Great Indian Peninsula Railway, a line, 84 miles in length, has been laid out. A treaty has been made between the British Government and the Maharajah of Jeypore for the lease of the Sambhur Salt Lake, by which the British Government will have the exclusive right to manufacture and sell salt there.

Carwar to Hooblee.

9. The line from Carwar to Hooblee, south of Bombay, is still under consideration. The difficulties of this scheme, and the expensive nature of the works over the ghâts, made it necessary to survey the ground afresh. More favorable gradients and easier works than were originally contemplated have now been found practicable.

Goolburga to Hyderabad.

10. The railway from Goolburga, on the Great Indian Peninsula, to Hyderabad, which is to be constructed with funds provided by the Nizam, has been laid out and commenced. It will be about 116 miles in length, and will go by Secunderabad and Trimulgherry. At the particular desire of the Nizam this line will be constructed on the broad gauge.

Gauge.

11. I may here mention that the important question of gauge has occupied much attention during the past year. The present width of 5 feet 6 inches was fixed upon by the home authorities, when Indian railways were first commenced, in the year 1859. Lord Dalhousie was in favour of 6 feet; but after much consideration 5 feet 6 inches was decided upon as preferable. Since that time the introduction of a lighter system of railways into India has more than once been proposed. Colonel H. Yule, R.E., C.B., strongly advocated it some years ago, and the Indian Branch Railway Company constructed two short lines of this description, both on the broad and narrow gauge, Mr. Wilson being their engineer. The recommendation that a much narrower gauge than 5 feet 6 inches should at once be applied to future lines of railway in India was made by the present Viceroy last year. The chief ground upon which Lord Mayo came to this conclusion was economy. He and the members of his Council considered that the railway system of India was really in its infancy; that its extension to any great length upon the existing mode of construction would be greatly retarded by the necessary outlay; that saving of cost in every direction was imperatively called for, and that such saving could be most satisfactorily secured by adopting a narrow gauge. The Government of India regarded 3 feet 6 inches as the maximum that should be used, but begged that this point should be determined in England.

Gauge committee.

12. A committee, consisting of Colonel R. Strachey, R.E., C.S.I., Colonel C. H. Dickens, R.A., C.S.I., Mr. John Fowler, C.E., and Mr. A. M. Rendel, Consulting Engineer to the East Indian Railway Company, was accordingly appointed "to consider the precise gauge and general character for an average

narrow gauge line of railway in India." The result of their investigations and deliberations was given in two reports, one containing the conclusions at which all the members of the committee, excepting Mr. Fowler, had arrived, the other expressing that gentleman's opinion alone. All, including Mr. Fowler, were in favour, on the ground of economy, of introducing a narrower gauge into India than the present standard of 5 feet 6 inches in districts where a break of gauge would not be productive of serious inconvenience, but they differed as to what that gauge should be. Colonel Strachey, Colonel Dickens, and Mr. Rendel recommended 2 feet 9 inches; Mr. Fowler, 3 feet 6 inches. The opinion of the former was founded upon the conviction that "to obtain the greatest economy in construction, " and, consequently, the greatest possible extension of railways in India, the gauge " selected should be not only narrow, but the narrowest which would combine con- " venience of transport for various kinds of goods and passengers with reasonable " speed, and with economy and safety in working;" and they were persuaded that these conditions would be fulfilled by a 2 feet 9-inch gauge. Mr. Fowler, on the other hand, was of opinion that a width of 3 feet 6 inches should be adopted, "on " the clear ground that it was not greater in first cost of works and rolling stock than " a gauge of 2 feet 9 inches, and was greatly superior in carrying capacity, con- " venience, and economical working." The other members of the committee considered that the cost of a railway was in proportion to its gauge; he did not. He felt that to secure the greatest simplicity and economy of construction and working in a locomotive a gauge of 3 feet 6 inches was required. They thought that engines of sufficient power might be put on a 2 feet 9-inch gauge to draw at a sufficient speed the largest traffic which the lines for which a narrow gauge is suitable are likely to carry. The same differences of opinion on similar grounds are expressed in regard to the rolling stock of the respective gauges. Opinions were also given on the subject by Mr. John Hawkshaw, as Consulting Engineer to the Madras and the Eastern Bengal Railways, and by Mr. G. P. Bidder, as Consulting Engineer to the Scinde, Punjab and Delhi Railway. They are both opposed to the application of any other than the existing gauge to future lines, which may be required as branches to or extensions of the systems of railway with which they are connected. They attach great importance to the evils and inconveniences of a break of gauge, and contend that the very small saving, if any, which might be secured by the adoption of a narrow gauge would be more than counterbalanced by those disadvantages. Mr. Hawkshaw, however, admits, in the early part of his report, that if "it were a well-ascertained fact that there " are districts in India where, having regard to financial reasons, a railway on " a narrower gauge could be made, but where a railway on the existing gauge " could not and ought not to be made, then that would be a case in which " a narrow gauge might be considered as an absolute necessity." He calculates, upon certain assumptions, that the difference in the first cost of a heavy railway on the 5 feet 6-inch and a light railway on the 3 feet 6-inch gauge would be 1,810*l.* per mile, and that the saving in maintenance and renewals of permanent way would be 50*l.* per mile per annum, or, if capitalised at 20 years' purchase, 1,000*l.* He considers, however, that the object of economy would be best attained by constructing a lighter system of railway on the existing gauge, and calculates that by this means 1,250*l.* per mile might be saved in the first cost, and 40*l.* per annum in maintenance, or 800*l.* capitalised. Thus, under the least favorable view of the case, a saving of about 800*l.* per mile is admitted. The case above described in Mr. Hawkshaw's words would probably be regarded as the rule, instead of the exception, for future lines in India. If ten thousand miles are to be laid out, economy must be observed in the construction of every mile, and a saving of 800,000*l.* in every thousand miles, or of 8,000,000*l.* in ten thousand miles, becomes a matter of importance.

Reports of gauge committee.

13. A much greater saving, however, is expected by the advocates of the narrow gauge. I may mention, in passing, that the estimates for the Carnatic Railway, on the broad and narrow gauge systems, made by Mr. C. Douglas Fox, the Consulting Engineer to that company, show a saving of 1,700*l.* per mile in favour of the latter. The same capital would thus make 112 miles of the 5 feet 6 inches, or 151 miles of 3 feet 3 inches. I am informed also that in America 80 miles of a line which is to be 850 miles in length has been laid on a 3 feet gauge, at a cost of 2,500*l.* per mile, including rolling stock, the rail being 30 lbs. to the yard, joined by fish plates, the sleepers pine wood, 5 feet long, set 2 feet 6 inches apart.

14. The existence of another gauge in the country necessarily complicates the

question of introducing the narrow one; and in some places and situations the inconveniences of a break of gauge may be so great, or the value of a line of communication for strategical purposes may be so impaired by it, as to make it worth while to pay the difference in cost; but, under ordinary circumstances, these kinds of difficulties may be greatly reduced by improved mechanical appliances and good traffic arrangements. The condition of things, moreover, in this country, where, within short distances, and with an immense traffic, a break of gauge has been found to be most burdensome and objectionable, is very different from that of India.

14. All the opinions above mentioned were on the 26th October last transmitted to the Government of India, with a despatch to H.E. the Governor General in Council, in which were weighed the advantages and disadvantages, on political and economic grounds, of the application of a narrow gauge to future railways, especially to the cases of the Punjab Northern and the Indus Valley lines, and after commending to his investigation certain points of a local and technical character which would bear upon the question, the decision was left in the hands of the Government of India. That Government has since decided that the future narrow gauge for Indian railways shall be a metre or 3 feet $3\frac{3}{8}$ inches, this being in its opinion most convenient as respects the width of vehicle which can be run on it, and one which, while equal to the present requirements of the traffic with light rails and rolling stock, may be readily adapted in case of an important increase of traffic for larger vehicles and heavier engines. The Government determined also that it should be adopted for the Punjab Northern and Indus Valley lines as well as for the Rajpootana and Indore Railways.

Dates at which the right of purchase by the Government may be exercised.

15. It was mentioned in my last report that certain modifications had been made in the original contracts with many of the Railway Companies, the chief object being to arrange in future for the equal division of surplus profits, that is, of profits above the rate of guaranteed interest, between the Government and the Companies so long as the railways remained in the hands of the Companies. Under most of the former contracts power was given to the Government to purchase the railways upon terms specified on the 25th and 50th year after the dates of the respective contracts. The dates at which the first opportunity of purchase was fixed have in some cases been altered, and in others the right of purchase at the end of the first 25 years has been given up by the Government. The position in which each company now stands in this respect will be seen by the subjoined list.

16. Dates when the right of purchase can first be exercised by Government in the case of the several guaranteed Indian railways:

East Indian, main line	15 February 1879.
„ Jubbulpore line	21 April 1883.
Great Indian Peninsula	17 August 1899.
Madras	1 April 1907.
Bombay, Baroda and Central India	1 May 1905.
Scinde, Punjab and Delhi	1 January 1885.
Eastern Bengal	30 July 1883.
Great Southern of India	1 January 1889.
Oude and Rohilkund	2 August 1887.
Carnatic	1 March 1890.

Modes of purchase.

17. It is well known that under the contracts the purchase money, the amount of which is to be regulated by the average price of the stock of the railway sold during the three preceding years, may be paid either in a lump sum or in the shape of an annuity, payable half yearly in London, "to be reckoned from the time when "the gross amount would be payable, and to continue during the residue of the "term of 99 years; the rate of interest which shall be used in calculating such "annuity being determined by the average rate of interest during the preceding two "years received in London upon public obligations of the E.I. Company, and other "public obligations in London by the Secretary of State in Council, and which shall "be ascertained by reference to the Governor and Deputy Governor of the Bank "of England for the time being." Should the railways be purchased under the operation of the clauses which either enable or require the Government to take them over, the authorities will of course be guided by the circumstances existing at the time as to which is the preferable mode of payment; but it would seem probable that the conversion of the capital into an annuity would be the course followed. In the cases of the Oude and Rohilkund and Carnatic Companies, in lieu of the option of paying by means of an annuity, the Government has the power of transferring to them Government of India 5 per cent. stock, redeemable at par, instead of making a cash payment.

18. As intimately connected with railway communication at Calcutta, it may be mentioned that the crossing of the Hooghly at Calcutta by a floating bridge has been determined on. It is estimated to cost 180,000*l.*, and has been placed in the hands of its projector, Mr. Leslie, late Chief Engineer of the Eastern Bengal Railway, who is preparing the materials for its construction in this country. Floating bridge at Calcutta.

19. In giving an account of the progress of railway works in India allusion may properly be made to any improvements in the means of communication with India. Last year I had to allude to the opening of the Suez Canal. This year the completion of the tunnel under Mount Cenis is an event which cannot be overlooked in regard to its effect upon the future journey to India. It will promote the establishment of a route which will reduce the sea passage from six days (by Marseilles) to three (by Brindisi) and effect a saving in time of many hours. Mont Cenis tunnel.

PERSONS EMPLOYED ON THE RAILWAYS.

20. It will be seen by the subjoined tables that the number of persons employed in the management and maintenance of 4,599 miles of railway on the 30th of September last was 69,233, or about 15 per mile; of these 5,048 were Europeans and East Indians, and 64,185 were natives. By another return the average number of Europeans and East Indians during the year ending the 30th June 1870 is given at 5,572, of which 3,865 were Europeans, and 1,707 were East Indians. The number of stations open when the census of the 30th September was taken was 477; so that the number of Europeans was 10·58 per station, and 1·09 per mile, and the number of natives 134·5 per station, and 13·9 per mile. The number per mile employed on the East Indian is rather in excess of the average, being 16·4; the number on the Great Indian Peninsula is 18; on the Bombay, Baroda, and Central India 15; and on the Madras 10. European and Native servants.

21. There were 48 deaths amongst Europeans, and 11 amongst East Indians. Of the Europeans 456 and of the East Indians 183 resigned or did not renew their engagements; 317 Europeans and 62 East Indians were dismissed. The per-centage of casualties by death amongst Europeans in Bengal (including the Punjab) was 1·2, in Madras 2, in Bombay 1·1, being an average of 1·2 for the whole of India. The per-centage of Europeans who resigned was in Bengal 10·8, in Madras 10·2, in Bombay 13·9, or an average of 11·8. The per-centage of Europeans dismissed was in Bengal 9·5, in Madras 4·9, in Bombay 6·6, or an average of 8·2 for the three Presidencies. It would thus appear that, exclusive of deaths, the changes in the European staff of the railways were last year at the rate of 20 per cent. per annum. Casualties.

22. Upon this fact, Major Williams, R.E., the Secretary to the Government of India in the Railway Department, makes the following remark:—"There are special "difficulties in this country (India) in maintaining a permanent staff, on lines with "a fluctuating traffic, that shall be at all times efficient, and yet moderate in cost. "If these returns establish that the Railway Companies may depend on the local "supply for the chief part of their staff, they also establish that the European "portion of that supply is being constantly changed. It is scarcely necessary to "dwell upon the serious risk to safe working that this implies."

The following table exhibits the average number of EUROPEANS and EAST INDIANS employed on the RAILWAYS in INDIA, in the TRAFFIC, LOCOMOTIVE, and GENERAL DEPARTMENTS during the half-year ending 30th June 1870, with the reductions in the same from various causes.

Railways in	Average Number of Servants.		Total.	Percentage of Reduction by						Percentage of Losses of all kinds.		Number who died.		Number who resigned.		Number dismissed.		Total.	
				Death.		Resignation or Discharge.		Dismissed.											
	Europeans.	East Indians.		Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.
Bengal and N. W. P.	2,290	782	3,072	1·2	·4	10·8	12·	9·5	2·7	21·5	15·1	28	3	248	94	218	21	494	118
Madras	304	516	820	2·	1·3	10·2	5·8	4·9	2·3	17·1	9·5	6	7	31	30	15	12	52	49
Bombay	1,271	409	1,680	1·1	0·2	13·9	14·4	6·6	7·1	21·6	21·7	14	1	117	59	84	29	275	89
All India	3,865	1,707	5,572	1·4	·6	11·6	10·7	7·	4·	20·1	15·4	48	11	456	183	317	62	821	256

ABSTRACT RETURN of Persons employed in the various Departments of the Indian Railways on the 30th September 1870.

Railways.	Agent's Department, including Medical and Barrack Departments.			Account Department.			Audit Department.			Printing and Stationery Department.			Stores Department.			Traffic Department, including Steam Ferry.			Engineer's Department.			Carriage and Wagon Departments.			Locomotive Department.			Telegraph Department.			Grand Total.			No. of Miles open.	No. of Stations.
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.		
GUARANTEED.																																			
East Indian - -	80	182	212	18	405	423	31	377	408	8	271	279	39	948	987	518	4,132	4,650	103	7,167	7,270	128	3,351	3,479	819	2,556	3,375	61	1,121	1,182	1,755	20,510	22,265	1,354½	136
Great Indian Peninsula -	32	232	264	—	—	—	—	—	—	—	—	—	26	288	314	316	3,262	3,578	318	10,710	11,028	—	—	—	546	5,411	5,957	16	48	64	1,254	19,951	21,205	1,184½	107
Madras - - -	29	220	249	—	—	—	—	—	—	—	—	—	10	93	103	159	1,478	1,637	74	2,698	2,772	—	—	—	398	1,949	2,347	42	111	153	712	6,549	7,261	707	68
Bombay, Baroda, and Central India.	12	80	92	—	—	—	—	—	—	—	—	—	10	10	20	41	563	604	31	2,698	2,729	—	—	—	204	970	1,174	14	101	115	312	4,422	4,734	312	51
Scinde, Punjab and Delhi	49	823	872	28	43	71	24	64	88	1	151	152	16	175	191	211	1,670	1,881	84	684	768	—	—	—	189	2,016	2,205	—	—	—	602	5,620	6,228	671	56
Great Southern of India -	20	107	127	—	—	—	—	—	—	—	—	—	—	—	—	20	253	273	31	688	719	—	—	—	63	515	578	—	—	—	134	1,563	1,697	168	22
Eastern Bengal - -	8	53	61	4	70	74	1	21	22	—	24	24	4	27	31	65	1,043	1,108	64	2,837	2,901	5	164	169	47	314	361	3	92	95	201	4,645	4,846	113½	26
Oude and Rohilkund -	18	30	48	10	60	70	1	5	6	7	40	47	—	—	—	5	108	113	6	75	81	—	—	—	18	275	293	2	14	6	62	607	669	42	5
Carnatic - - -	—	—	—	—	—	—	—	—	—	—	—	—	—	3	3	1	18	19	1	52	53	—	—	—	2	10	12	—	—	—	4	83	87	19	4
STATE.																																			
Calcutta & South-Eastern	2	—	2	—	5	5	—	1	1	—	1	1	—	1	1	4	51	55	2	139	141	—	6	6	4	19	23	—	6	6	12	229	241	28	8
Total - -	200	1,727	1,927	60	583	643	57	468	525	16	487	503	105	1,545	1,650	1,340	12,578	13,918	714	27,768	28,482	133	3,521	3,654	2,285	10,035	10,320	138	1,493	1,631	5,048	64,185	69,233	4,599½	477

23. Efforts are being made by the Companies and the Government to bring the European staff to the lowest practicable limit. One of the hindrances to Indian railway enterprise is the necessarily expensive nature of that portion of the working staff which is filled by Europeans. To train and educate natives to perform the duties now allotted to Europeans is an important object to keep in view in connexion with the subject of economical reform. In Madras considerable success has already attended the measures that have been taken for that purpose. The system of apprenticeship has answered very well there. As a rule, the youths have remained in the service of the Companies after the expiration of their term of apprenticeship. The same plan has been adopted in Bombay, and the results are encouraging there also. Reduction of European staff.

ACCIDENTS.

24. Although there have been several accidents of a serious nature during the year 1870, the general results compare favorably with the year 1869 and most other previous years. The number of passengers killed and injured in 1870 were 13 and 63 respectively, as against 48 and 92 in 1869; the proportion of those who suffered from causes beyond their control being in 1870 2·53 per million instead of 6·66, and of those who were killed by their own misconduct or incaution 1·65 in 1870, in place of 1·81 per million in 1869. As respects the servants employed on the railways, 113 lost their lives, 13 from causes beyond and 100 from causes within their control; 134 also were injured, 114 from causes which might have been avoided. To complete the list of casualties, the number of trespassers has to be added. Of these, 78 were killed and 27 injured. A further class in the list of mortality has to be mentioned, and that is deaths in trains or at stations, of which 114 occurred in 1870. These cases, as described in the returns, show that the deaths occur under various circumstances and at all seasons, but that all may be attributed to natural causes, such as heat apoplexy, exhaustion, cholera, which no arrangements on the railways could altogether prevent. Accidents. Passengers. Servants.

25. The most serious accident of the year occurred on the Madras Railway, which hitherto had been exempt from any fatal accident to passengers. On the night of the 20th October a portion of the bridge which crosses the Cheyair river, on the road to Cuddapah, was washed away, and the train was precipitated into the water, eight persons losing their lives, five being servants of the company and three passengers, consisting of the Rev. Mr. and Mrs. Seymour and Mr. Charry. One body was found in the river a few days after, sixty miles from the scene of the accident. The foundations of the bridge, which rested on treacherous ground, were undermined by the scour; but whether the structure gave way before the train arrived at the bridge, or while it was crossing, does not appear to have been ascertained. A commission of experienced officers has been appointed to investigate the condition of all the bridges on the line, which are constructed in a similar manner. Accident on the Madras line.

26. From the number of fires it would appear that the spark catchers which it was thought would have removed the chief cause are susceptible of improvement. The question is being again looked into in this country. The inference which will naturally be drawn from the occurrence of so many cases of "running over cattle" is that the fencing is at fault, and to a certain extent it may be so considered; but it is a question whether, instead of being not good enough, it may not be too good, or whether in fact it may not be safer in many places to do without it altogether. When it is borne in mind that wild buffaloes, camels, sheep, goats, wild pigs, bears, wolves, and even elephants, are included in the term "cattle," it will not be thought surprising that a fence must be of a very peculiar character to keep them out, especially when they may be tempted by a richer pasturage within than without the railway boundary. Instances have been brought forward, in fact, where cattle, with the cognisance, if not the encouragement, of the herdsmen, have passed over on to the railway land to feed there. Having entered, it is not so easy to return, especially when terrified by a train, and the consequence is that the beast is run over, unless the cow-catcher does its work properly. The American plan of leaving the railways unfenced through grazing lands, and of making the herdsman responsible, might be advantageously applied to certain parts of India. The matter is now receiving the consideration of the Government, who seem doubtful as to the necessity for requiring fencing for some of the state lines. A Bill, moreover, has been introduced into the Legislative Council, which, if it becomes law, will make herdsmen or owners of cattle liable to heavy fines for allowing cattle to trespass on railways. The fencing of the 5,000 miles of railway now open in India has probably cost not less than 1,000,000*l.* This would be worth saving on the next 5,000 miles. Fires. Fencing.

27. The statements and remarks which follow are taken from the report compiled for the Government of India.

Table No. I.

Abstract of the Number and Nature of the Accidents and of the Injuries to Life and Limb which occurred in 1870 on all Railways open for Traffic in India.

Presidency.	Mean Mileage open.	Railways.		Classification of Accidents to Trains, &c. — Main Heads. I. Collisions.	II. Getting off proper Line.	III. Fire.	IV. Running over Cattle.	V. Other Causes.	Total.	Passengers. From Causes beyond their own Control. Killed.	Injured.	Passengers. From their own Misconduct or want of caution. Killed.	Injured.	Servants of Companies or of Contractors. From Causes beyond their own Control. Killed.	Injured.	Servants of Companies or of Contractors. From their own Misconduct or want of caution. Killed.	Injured.	Other Persons. Whilst crossing at Level Crossings. Killed.	Injured.	Other Persons. Whilst trespassing (including Suicides). Killed.	Injured.	Other Persons. Miscellaneous. Killed.	Injured.	Total Persons of all Classes. Killed.	Injured.	Killed and Injured.
Bengal	1,354	East Indian	1870	6	10	1	128	2	147	1	38	9	14	5	8	25	46	1	1	41	8	7	1	89	116	205
	1,354		1869	33	9	—	30	4	76	1	23	13	10	2	24	39	46	3	2	33	10	5	1	96	116	212
	112	Eastern Bengal	1870	1	1	3	3	—	8	—	—	—	2	1	2	2	—	—	—	2	—	—	—	5	4	9
	113		1869	—	2	—	—	1	3	—	—	1	—	—	—	3	3	—	—	2	—	—	—	6	3	9
	28	Calcutta and South-eastern.	1870	—	1	—	3	—	4	—	—	—	—	—	—	1	1	—	—	—	—	—	—	1	1	2
	28		1869	—	—	1	1	1	3	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
	28	Nulhuttee	1870	—	—	—	1	8	9	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
	27		1869	—	3	1	1	1	6	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	1
	42	Oude and Rohilkund	1870	2	3	1	4	4	14	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	2	2
	42		1869	—	4	20	6	3	33	—	—	—	3	—	1	8	4	—	—	—	—	—	—	2	7	9
	541	Punjab and Delhi	1870	3	34	38	4	18	97	—	—	—	—	—	1	2	6	—	—	—	—	—	—	8	8	16
	441		1869	6	6	15	—	4	31	—	—	—	2	4	5	10	2	1	—	3	—	—	—	18	9	27
Madras	711	Madras	1870	3	4	6	53	8	74	3	—	—	—	6	2	10	7	—	2	2	—	—	—	21	11	32
	689		1869	1	9	2	34	4	50	—	—	—	1	—	—	10	10	1	—	1	—	—	—	12	11	23
	168	Great Southern of India.	1870	—	—	—	—	1	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1
	168		1869	—	—	—	41	—	41	—	—	—	—	—	—	—	—	—	1	—	2	—	—	1	2	3
	19	Carnatic	1870	—	—	—	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19		1869	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bombay	1,160	Great Indian Peninsula	1870	46	182	2	52	31	313	—	1	—	2	1	6	44	46	1	1	14	11	1	—	61	67	128
	872		1869	31	94	11	25	22	183	19	43	1	—	2	3	25	32	—	—	7	2	—	2	54	82	136
	312	Bombay, Baroda, and Central India.	1870	8	19	1	45	1	75	—	3	—	—	—	1	9	8	—	—	8	2	—	—	17	14	31
	308		1869	6	16	—	106	3	131	11	13	1	—	—	1	12	10	—	—	1	1	—	—	25	25	50
	106	Scinde	1870	—	4	1	18	5	28	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	1
	109		1869	1	6	2	3	2	14	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	3	3
India	4,581	— — —	1870	89	258	53	314	78	772	4	42	9	21	13	20	101	114	2	4	68	22	8	1	204	224	428
	4,170		1869	78	149	52	248	45	572	31	79	17	13	8	34	100	112	6	2	48	15	5	3	216	258	474

TABLE No. II.—NUMERICAL ABSTRACT of ACCIDENTS of all Classes on all Railways open for Traffic in India during the Year 1870.

	BENGAL, NORTH-WESTERN PROVINCES, OUDE, AND PUNJAB.												MADRAS.						BOMBAY.						Total.		
	East Indian.		Eastern Bengal.		Calcutta and South-Eastern.		Nulhuttee.		Oude and Rohilkund.		Punjab and Delhi.		Madras.		Great Southern of India.		Carnatic.		Great Indian Peninsula.		Bombay, Baroda, & Central India.		Scinde.				
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed & Injured.
PASSENGERS.																											
From causes beyond their own control, viz.:—																											
From accidents to trains	1	37	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	—	3	—	—	4	40	44
From other causes	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	2	2
Total	1	38	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	1	—	3	—	—	4	42	46
Per million of passengers	0·19	7·09	—	—	—	—	—	—	—	—	—	—	1·43	—	—	—	—	—	—	0·31	—	1·17	—	—	0·22	2·31	2·53
From their own misconduct or incaution	9	14	—	2	—	—	—	—	—	—	3	—	—	—	—	—	—	—	—	2	—	—	—	—	9	21	30
Per million of passengers	1·68	2·61	—	1·45	—	—	—	—	—	—	1·60	—	—	—	—	—	—	—	—	0·62	—	—	—	—	0·50	1·15	1·65
Total from all causes	10	52	—	2	—	—	—	—	—	—	3	3	—	—	—	—	—	—	—	3	—	3	—	—	13	63	76
SERVANTS OF COMPANIES OR OF CONTRACTORS.																											
From causes beyond their own control	5	8	1	2	—	—	—	—	—	—	1	1	6	2	—	—	—	—	1	6	—	1	—	—	13	20	33
From their own misconduct or incaution	25	46	2	—	1	1	—	—	—	1	8	4	10	7	1	—	—	—	44	46	9	8	—	1	100	114	214
Total from all causes	30	54	3	2	1	1	—	—	—	1	8	5	16	9	1	—	—	—	45	52	9	9	—	1	113	134	247
OTHER PERSONS.																											
Crossing at level crossings	1	1	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	1	1	—	—	—	—	2	4	6
Trespassers, including suicide	41	8	2	—	—	—	1	—	—	1	—	—	2	—	—	—	—	—	14	11	8	2	—	—	68	22	90
Miscellaneous	7	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	8	1	9
Total from all causes	49	10	2	—	—	—	1	—	—	1	—	—	2	2	—	—	—	—	16	12	8	2	—	—	78	27	105
Grand total of all classes from all causes	89	116	5	4	1	1	1	—	—	2	8	8	21	11	1	—	—	—	61	67	17	14	—	1	204	224	428
Mean length of railway open during the year (miles)	1,354		112		28		28		42		541		711		168		19		1,160		312		106		4,581		
Number of passengers carried	5,353,547		1,376,671		290,691		72,950		354,292		1,876,238		2,091,886		767,584		79,572		3,226,623		2,561,220		95,097		18,146,371		
Train mileage (goods and passengers)	6,519,914		364,522		39,645		21,376		59,662		928,396		2,466,252		240,086		27,892		3,633,107		1,068,864		132,623		15,502,339		

TABLE No. III.

Showing the TOTAL NUMBER of ACCIDENTS to PERSONS of all kinds, and to TRAINS, &c., on all RAILWAYS open for TRAFFIC in each Presidency of India, during the Year 1870.

Presidencies.		Mean Length of Railway open.	Total Number of Train Miles.	Train Miles per Mile open.	Total Number of Accidents to Trains, &c., of all kinds.	Total Number of Passengers carried.	Average Number of Passengers per Mile opened.	Passengers.		Servants.				Trespassers, &c.		Total.		
								Killed.	Injured.	Beyond their own Control.		Within their own Control.		Killed.	Injured.	Killed.	Injured.	Killed and Injured.
										Killed.	Injured.	Killed.	Injured.					
Bengal	1870	2,105	7,933,515	3,769	279	9,324,389	4,430	10	57	6	11	36	52	52	11	104	131	235
	1869	2,005	7,739,387	3,860	152	8,426,046	4,202	16	35	6	30	54	57	48	13	124	135	259
Madras	1870	898	2,734,230	3,045	77	2,939,042	3,273	3	--	6	2	11	7	2	2	22	11	33
	1869	876	2,211,791	2,525	92	3,094,630	3,533	—	1	—	—	10	10	3	2	13	13	26
Bombay	1870	1,578	4,834,594	3,064	416	5,882,940	3,728	—	6	1	7	53	55	24	14	78	82	160
	1869	1,289	3,752,203	2,911	328	4,992,361	3,873	32	56	2	4	37	45	8	5	79	110	189
India	1870	4,581	15,502,339	3,384	772	18,146,371	3,961	13	63	13	20	100	114	78	27	204	224	428
	1869	4,170	13,703,381	3,286	572	16,513,037	3,960	48	92	8	34	101	112	59	20	216	258	474

Sixty-nine collisions are reported in 1870, against 78 in 1869, and 64 in 1868; the train and open mileages in the three years have been— Causes of accidents. Collisions.

	Train Mileage.	Open Mileage.
In 1868 - - -	11,431,656	3,958
In 1869 - - -	13,703,381	4,170
In 1870 - - -	15,502,339	4,581

Of these 69, no less than 46 occurred on the Great Indian Peninsula Railway, over which 3,633,107 train miles were run; and only six on the East Indian Railway, over which 6,919,914 train miles were run. The result of the whole 69 collisions was that three persons were killed and 42 injured.

Under the head, "Getting off proper line," a very serious increase in the number of accidents is reported, the total for all India being :— Getting off line.

In 1868 - - -	104
In 1869 - - -	149
In 1870 - - -	258

This increase is quite out of proportion with the increase in the number of miles worked or of trains run. Of the whole 258 accidents, 182 occurred on the Great Indian Peninsula Railway; 40 on the Scinde, Punjab, and Delhi Railway; and only 10 on the East Indian Railway.

There were 53 cases of fire in 1870, against 52 cases in 1869, and 27 in 1868. In 1869 the greatest number of cases occurred on the Oude and Rohilkund Railway, but in 1870 the Scinde, Punjab, and Delhi Railway stands at the head of the list, with no less than 39 cases of fire. With few exceptions, all cases from fire are reported to be caused by sparks from the engine, and, as might be expected, are most frequent on lines where wood fuel is burned. They seem, however, to be by no means confined to such lines. The following table shows the amounts paid by the three principal companies during the last few years for compensation for losses by fire:— Fire.

Railway Company.	1867.	1868.	1869.	1st Half 1870.
	Rs.	Rs.	Rs.	Rs.
East Indian (*burns coal*) - - -	28,365	1,135	7,749	9,529
Great Indian Peninsula (*burns coal*) -	36,671	4,338	20,831	500
Madras (*burns wood*) - - -	1,354	16,854	3,968	14,983

314 cases of running over cattle occurred in 1870, of which 128 were on the East Indian Railway; 53 on the Madras Railway; 52 on the Great Indian Peninsula Railway; and 46 on the Bombay, Baroda, and Central India Railway. No serious accident has been occasioned by running over cattle; but on two occasions out of the 128 on the East Indian Railway carriages were thrown off the line by the shock. On the Jubbulpore line a fast mail train ran over a buffalo, and a second-class carriage left the rails; and on the main line a fast mail train ran over a wild buffalo, and the rear break van was thrown off the line. No person was hurt on either occasion. On the Madras Railway a buffalo was run over, and a wagon was in consequence thrown off the rails and dragged for a couple of miles. On the Scinde Railway a horse was run over, and, as the ballast was low, it got under the cow-catcher, but fortunately no harm resulted. Running over cattle.

45 accidents occurred in 1869, and 78 in 1870, which cannot be classified under any of the foregoing heads. Of these, 11 in 1869 and 12 in 1870 were due to defective rolling stock; 9 in 1869 and 16 in 1870 to the neglect of gatemen or police; and five in 1869 and twelve in 1870 were caused by the locomotive department. Other causes.

PROCEEDINGS IN THIS COUNTRY.

Proceedings in this country.

28. The proceedings in this country have consisted, as usual, in raising the necessary capital, meeting the requisitions for stores from India, and shipping the various materials to their destination. The four principal Companies have now nearly completed the construction of their lines, so that stores in future to be provided by them will be chiefly for maintenance and working purposes. The amount of such materials, however, will not be inconsiderable, though of course much less than the yearly average of those sent to make and equip the lines.

Shipments.

29. The shipments during the past year and from the commencement of operations are shown in the following tables.

SHIPPING OPERATIONS DURING 1870.

Railway.	Number of Ships employed in 1870.	Number of Tons of Goods shipped in 1870.	Value of Goods shipped in 1870.	Amount paid for Freight and Insurance in 1870.	Rate of Freight and Insurance per Ton.
			£	£	£ s. d.
East Indian - - -	33	18,280	153,948	25,642	1 8 0
Great Indian Peninsula - -	110	111,904	487,800	189,291	1 13 10
Madras - - - -	33	11,427	80,268	16,443	1 8 9
Bombay, Baroda and Central India	60	*11,911	75,960	19,876	1 13 4
Scinde, Punjab and Delhi -	34	2,508	53,241	6,667	2 13 0
Great Southern of India - -	29	28,071	194,600	47,127	1 13 7
Eastern Bengal - - -	9	550	8,957	1,057	1 18 0
Oude and Rohilkund - -	122	68,496	539,273	90,539	1 6 5
Carnatic - - - -	4	2	190	22	11 0 0
State Railways - - -	31	10,300	87,275	13,802	1 6 9
Total - - -	465	263,449	1,681,512	410,466	

* Exclusive of coal.

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.	Number of Ships lost.	Number of Tons of Goods shipped.	Value of Goods shipped.
				£
Up to end of 1860 - -	2,605	39	2,094,686	10,431,976
In 1861 - - - -	407	—	182,621	1,669,443
„ 1862 - - - -	280	1	138,013	1,487,582
„ 1863 - - - -	279	2	166,840	1,285,464
„ 1864 - - - -	233	—	102,318	1,018,164
„ 1865 - - - -	442	2	199,157	1,729,543
„ 1866 - - - -	581	7	312,227	2,527,757
„ 1867 - - - -	512	5	333,329	3,052,652
„ 1868 - - - -	364	3	188,858	1,849,554
„ 1869 - - - -	455	1	211,750	1,432,784
„ 1870 - - - -	461	1	263,449	1,688,209
Total - -	6,619	61	4,193,248	28,173,128

Proprietors.

30. Within the last two years the proprietors of the various shares, stocks, and debentures have increased from 53,500 to 58,637, while the capital has increased from 82,376,625*l.* in March 1869 to 91,102,810*l.* on the 1st April last.

Railway.	Number of Shareholders on 31st December 1870.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1870.
	Registered in England.			In India.					
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.	Bond.	Stock.	
East Indian - - -	6,476	7,854	14,330	234	126	360	1,565	505	16,760
Great Indian Peninsula -	5,296	7,190	12,486	70	97	167	1,535	887	15,075
Madras - - -	2,595	3,784	6,378	—	—	—	728		7,106
Bombay, Baroda and Central India -	2,088	3,667	5,755	13	69	82	933		6,770
Scinde, Punjab and Delhi - - -	2,944	3,906	6,850	77	11	88	30		6,968
Great Southern of India	612	805	1,417	2	7	9	77		1,494
Eastern Bengal - -	667	997	1,664	23	20	43	452		2,159
Oude and Rohilcund -	705	965	1,670	12	20	32	47		1,749
Carnatic - -	149	381	529	9	18	27	—		556
Total - -	21,533	29,249	51,079	440	368	808	5,367	1,392	58,637

CAPITAL EXPENDITURE AND FINANCIAL POSITION OF THE RAILWAY COMPANIES.

Finance.

31. Up to the 1st April last a sum of about 88,064,000*l.* had been expended by the Companies on the railways undertaken by them. Of this, 5,500,000*l.* was expended during the year just past, and about 614,000*l.* represents the capital of the Calcutta and South-eastern Railway Company now in the possession of the Government. The total amount of capital which, it is estimated, will be required for the lines which have been sanctioned, including those open and those incomplete, is estimated at about 100,000,000*l.*, of which 91,102,810*l.* has been raised and paid into the Government treasury. Of this, a sum of 6,225,971*l.* was raised last year, 5,252,322*l.* by means of shares, 839,299*l.* by debenture stock, and 134,350*l.* by terminable debentures.

32. The 91,102,810*l.* above mentioned consists, 1st, of share capital, 78,487,585*l.*; 2nd, of debentures, 10,242,485*l.* (of which 3,363,285*l.* are convertible into shares at the option of the holder); and 3rd, debenture stock, 2,372,740*l.* The present financial year began with a balance of about 3,652,995*l.* in favour of the Companies towards the expenditure of the current year, which has been estimated at 4,600,000*l.*, of which 1,985,000*l.* will be in England.

State lines.

33. With regard to the State lines, no accurate estimates have yet been made of their cost, but the following figures will give an approximate idea of the money required for those which have been decided upon:—

	Length.	Estimated Cost.
Punjab Northern, from Lahore to Peshawur -	270 miles	£3,000,000
Indus Valley, from Moultan to Kotree -	500 „	5,000,000
Rajpootana — from Agra to Ajmere -	236 „	2,500,000
Rajpootana — from Delhi to join the above -	125 „	
Rajpootana — branch to Salt Works -	8 „	
Indore to Khundwa on Great Indian Peninsula Railway -	84 „	800,000
Wurda, on Great Indian Peninsula Railway, to coalfields at Warora -	45 „	300,000
Carwar to Hooblee -	60 „	700,000
	1,328	£12,300,000

Government surveys, &c.

34. During the year 1870–71 a sum of about 280,000*l.* has been expended by the Government on surveys, plans, and certain materials connected with the foregoing projects; and the short line of 7½ miles, connecting Oomrawuttee with the Great Indian Peninsula Railway, has been constructed for 30,000*l.* In the year 1871–72 it is calculated that about 1,500,000*l.* will be required by the Government, but no actual estimates or accounts have yet been received in this office from the Government in India. In addition to the above mentioned lines, one from Goolburga line. Goolburga on the Great Indian Peninsula Railway to Hyderabad, 116 miles in length, has been undertaken by the Nizam, who will expend on it this year a sum of about 250,000*l.*

35. The following tables, prepared in the Accountant General's department of this office, explain the financial position of each Company:—

STATEMENT No. 1.

Showing the Amount of Capital estimated to be required for each Undertaking as now sanctioned, the Amount authorised to be raised, the Amount raised, and the Amount expended, to 31st March 1871.

Railway.	Estimated Cost of Lines.	Amount authorised to be raised to 31st March 1871.					Amount raised in England to 31st March 1871.				Amount raised in India to Date of last Advices.	Total Amount raised to 31st March 1871.	Total Amount expended to 31st March 1871 (partly estimated).
		Share Capital.	Debentures.		Debenture Stock.	Total.	Share Capital.	Debentures.		Debenture Stock.			
			Convertible into Shares.	Inconvertible.				Convertible into Shares.	Inconvertible.				
	£	£	£	£	£	£	£	£	£	£	£	£	£
East Indian { Main line	27,500,000	22,169,430	830,570	2,950,000	1,500,000	27,450,000	21,797,407	830,570	*2,959,550	744,100	326,290	26,657,917	27,277,628
East Indian { Jubbulpore line	3,500,000	2,625,580	574,420	—	—	3,200,000	2,614,900	574,420	—	—	7,665	3,196,985	3,123,648
Great Indian Peninsula -	26,000,000	20,000,000	—	2,793,200	1,956,850	24,750,050	18,523,856	—	2,793,200	1,620,110	404,371	23,341,537	22,417,464
Madras - - -	11,000,000	8,655,700	844,300	500,000	—	10,000,000	8,608,311	844,300	458,850	—	—	9,911,461	9,748,135
Bombay, Baroda, and Central India - - -	8,500,000	7,056,900	943,100	—	—	8,000,000	6,759,562	943,095	—	—	21,672	7,724,329	7,436,158
Scinde, Punjab, and Delhi -	12,000,000	11,402,600	22,100	—	—	11,424,700	10,807,667	22,100	—	—	48,735	10,878,502	10,106,700
Great Southern of India -	3,000,000	2,323,500	97,900	75,000	425,000	2,921,400	2,256,279	97,900	75,000	7,000	1,221	2,437,400	1,656,067
Eastern Bengal - -	3,000,000	2,250,000	—	592,600	6,100	2,848,700	2,222,061	—	592,600	1,530	16,337	2,832,528	2,860,667
Oude and Rohilkund -	5,000,000	3,881,100	118,900	—	—	4,000,000	3,037,179	50,900	—	—	396,258	3,484,337	2,766,400
Carnatic - -	800,000	800,000	—	—	—	800,000	637,814	—	—	—	—	637,814	56,948
Total - - -	**100,300,000**	81,164,810	3,431,290	6,910,800	3,887,950	**95,394,850**	77,265,036	3,363,285	6,879,200	2,372,740	1,222,549	**91,102,810**	**87,449,815**

* Including £9,550 debentures, which fell due on 15th December 1870, payment of which had not been claimed on the 31st March 1871.

Accountant General's Department,
8th April 1871.

W. G. GOODLIFFE,
Accountant General.

Statement No. 2.

Showing the Amount received from and withdrawn by each Company during the Year ended 31st March 1871.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1870.	Sums advanced to the Companies on the 31st March 1870.	Amount received between 1st April 1870 and 31st March 1871.			Amount withdrawn.				Total received during the Year ended 31st March 1871.	Total Amount withdrawn during the Year ended 31st March 1871 (partly estimated).
						In England, between 1st April 1870 and 31st March 1871.	In India.				
			Share Capital.	Debenture Stock.	Debentures.		Date to which Accounts have been received.	Amount.	Estimated Withdrawals between dates specified and 31st March 1871.		
	£	£	£	£	£	£		£	£	£	£
East Indian { Main line	—	* 71,965	91,269	744,100	—	† 1,686,165	31st Jan. 1871	‡ *353,050*	50,000	835,369	1,383,115
East Indian { Jubbulpore line	* 612,084	—	—	—	—	—	„	§ 535,747	3,000	—	538,747
Great Indian Peninsula	126,982	—	2,009,726	86,669	—	609,656	„	619,648	70,000	2,096,395	1,299,304
Madras	308,545	—	10,026	—	134,350	81,572	31st Dec. 1870	158,023	50,000	144,376	289,595
Bombay, Baroda and Central India.	434,963	—	11,440	—	—	‖ 251,882	31st Jan. 1871	¶ *105,650*	12,000	11,440	158,232
Scinde, Punjab and Delhi	—	164,630	1,034,369	—	—	120,278	Scinde Rlwy. Indus Flotilla { 31st Jan. 1871; Punjab Rlwy. Delhi Rlwy. { 31st Dec. 1870	** *64,341*	42,000	1,034,369	97,937
Great Southern of India	907,894	—	56,400	7,000	—	168,993	31st Dec. 1870	15,968	5,000	63,400	189,961
Eastern Bengal	27,758	—	58,106	1,530	—	16,243	31st Jan. 1871	82,290	17,000	59,636	115,533
Oude and Rohilkund	501,161	—	1,564,772	—	—	542,126	„	635,870	170,000	1,564,772	1,347,996
Carnatic	180,856	—	416,214	—	—	10,197	31st Dec. 1870	3,507	2,500	416,214	16,204
Total	3,100,243	236,595	5,252,322	839,299	134,350	3,487,112	—	1,528,012	421,500	6,225,971	5,436,624

* These Balances are subject to adjustment in respect of Rolling Stock supplied by the Main line for the Jubbulpore line to the value, as approximately estimated, of £500,000.
† Includes £1,490,450 for the discharge of debentures.
‡ This sum is the difference between the amount expended in India on the Main line within the year, and the amount transferred from the Jubbulpore line in repayment of the value of Materials and Stores supplied from the Main line.
§ Includes £512,559 transferred, as stated in preceding note, to the Main line.
‖ Includes £100,000 for the discharge of debentures.
¶ Transfers of expenditure to Revenue Account, and the sale proceeds of Stores, exceed by this sum the amount withdrawn in India on Capital Account between 1st April 1870 and 31st January 1871.
** Difference between the amount withdrawn in India on Capital Account, and the amount of balances to the credit of the Indus Steam Flotilla taken in reduction of Capital Expenditure.

Accountant General's Department,
8th April 1871.

W. G. Goodliffe,
Accountant General.

STATE of DEBENTURE LOANS on the 31st March 1871.

Railway.	Amount. Convertible.	Inconvertible.	Total.	Rate of Interest	Date at which Loan expires.	Whether renewable.
	£	£				
East Indian	—	9,550		5	15th Dec. 1870. (remaining unclaimed on 31st March 1871.)	
"	187,920	—		5	1st April 1871.	
"	456,570	—		5	9th August 1871	Renewable.
"	50,000	—		4½	10th July 1872.	
"	—	1,000,000		4½	22d August 1872.	
"	—	440,000		4½	19th March 1873.	
"	—	10,000		4¼	19th March 1875.	
"	574,420	—		5	23d March 1875.	
"	—	196,150		4½	10th August 1875.	
"	—	1,024,000		4½	" "	
"	136,080	—		5	9th August 1876.	
"	—	96,400		4¼	10th August 1877.	
"	—	183,450		4½	" "	
	1,404,990	2,959,550	4,364,540			
Great Indian Peninsula	—	382,350		5	30th June 1871.	
" "	—	6,400		4½	" "	
" "	—	583,400		5	31st Dec. 1871.	
" "	—	39,200		5	" "	
" "	—	435,000		5	30th June 1872.	
" "	—	42,800		4½	" "	
" "	—	268,800		5	30th June 1873.	
" "	—	1,035,250		5	31st Dec. 1876.	
	—	2,793,200	2,793,200			
Madras	100	—		5	1st January 1871. (remaining unclaimed on 31st March 1871.)	
"	13,000	—		5	1st July 1871.	
"	403,600	—		5	1st January 1872.	
"	216,900	—		5	" "	
"	—	458,850		4½	1st January 1876.	
"	210,700	—		5	1st January 1877.	
	844,300	458,850	1,303,150			
Bombay, Baroda and Central India	170,200	—		5	1st July 1871.	
" " "	204,795	—		5	1st July 1872.	
" " "	317,900	—		5	1st January 1875.	
" " "	250,200	—		5	1st July 1876.	
	943,095	—	943,095			
Scinde, Punjab and Delhi	22,100	—	22,100	5	1st May 1871.	
Great Southern of India	—	75,000		4½	1st July 1871.	
" "	3,900	—		5	" "	
" "	28,700	—		5	1st July 1872.	
" "	10,000	—		5	1st January 1874.	
" "	55,300	—		5	1st July 1874.	
	97,900	75,000	172,900			
Eastern Bengal	—	15,250		5	12th April 1871.	
"	—	333,450		5	12th October 1871.	
"	—	4,900		5	1st November 1871.	
"	—	181,900		5	1st November 1874.	
"	—	57,100		5	1st November 1876.	
	—	592,600	592,600			
Oude and Rohilkund	100	—		5	28th July 1871.	
" "	100	—		5	9th March 1872	Renewable.
" "	300	—		5	24th March 1872	
" "	50,300	—		5	15th April 1875.	
" "	100	—		5	28th July 1876.	
	50,900	—	50,900			
			10,242,485			

Accountant General's Department,
20th May 1871.

W. G. GOODLIFFE,
Accountant General.

36. The debenture loans, which on the 1st April 1870 stood at 13,605,685*l.*, have been reduced by 3,363,200*l.* during the year, and replaced either by debenture stock or by share capital. A further reduction of about 2,250,000*l.* will take place during the present year. The total amount of debenture stock now issued is 2,372,740*l.* The further issue of this stock, which, being limited to the amount that the Companies are empowered to borrow, can only be in substitution of debentures not convertible into shares, will be facilitated by the power lately given to trustees, who have hitherto been able to hold debentures, to take debenture stock instead. Reduction of debenture loans. Debenture stock.

37. On various occasions when it was necessary to issue fresh capital, instead of guaranteeing such a rate of interest below 5 per cent. as would have enabled the companies to issue shares at par, they have been allowed to offer to their shareholders and the public shares or stock bearing 5 per cent. interest at a premium, the amount realised by this premium being paid to an account not bearing interest at the credit of each company, and expended on its works like the rest of the capital. Stock upon these conditions has been put out at prices varying from 2*l.* to 8*l.* or 9*l.* per cent. premium. Premium realised from issue of shares, &c.

38. The following statement shows the amount received from each of the undermentioned railway companies as premium on the issue of capital to the 31st March 1871:—

	£	*s.*	*d.*
East Indian	147,498	10	11
Great Indian Peninsula	207,857	2	9
Bombay, Baroda and Central India	18,000	0	0
Great Southern of India	36,000	0	0
Eastern Bengal	1,964	8	0
Carnatic	22,200	0	0
Total	£433,520	1	8

39. The following statement gives the amount of capital expended by the Companies named to the 31st March 1871. The cost per mile and the manner in which the expenditure was distributed may be seen by the following statements. Average cost per mile.

Railway Company.	Length opened 31st March 1871.	Cost to 30th March 1871.	Cost per Mile.
		£	£
East Indian	1,503	30,401,276	20,227
Great Indian Peninsula	1,272	22,417,464	17,623
Madras	832	9,748,135	11,716
Bombay, Baroda and Central India	312	7,436,158	23,833*
Scinde, Punjab and Delhi	675	10,106,700	14,972
Great Southern of India	168	1,454,666	8,658
Eastern Bengal	159	2,860,667	17,928

* This represents an expenditure on a certain portion of line not yet opened.

Distribution of capital expended.

Railway Company.	Works and Bridges.	Permanent Way and Stations.	Freight and Insurance.	Rolling Stock and Engines.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian	9,530,000	7,115,000	2,975,000	3,450,000	3,700,000	3,685,000
Great Indian Peninsula	9,077,553	7,051,054	1,661,231	2,727,366	1,551,965	202,301
Madras	3,908,635	3,608,920	—	1,048,084	806,232	407,931
Bombay, Baroda and Central India	3,081,211	1,824,368	—	1,079,037	717,144	735,810
Scinde, Punjab and Delhi*	1,966,837	3,395,957	759,368	1,218,447	1,028,250	1,193,979
Great Southern of India		1,007,555		133,835	175,285	72,507
Eastern Bengal		2,020,578		292,785	305,052	193 178
Oude and Rohilkund	285,360	760,380	—	117,380	211,130	105,210
Carnatic	6,100	31,599	—	12,063	11,264	12,279

* *Indus Steam Flotilla:—*

	£	*s.*	*d.*	
Steamers and barges	378,301	1	1	Not included in above statement.
Warehouses and workshops	45,504	9	7	

Rate of exchange.

40. It has been mentioned in previous reports, that in addition to the capital provided by the Companies under the Government guarantee, a contribution of something like 4,000,000*l.* has been made by Government through the operation of the provisions of the contract with respect to the rate of exchange, viz. 1*s.* 10*d.*, at which the rupee was to be advanced by Government in India for the sterling money paid by the companies in England. For land and Government establishments a further sum of about 3,000,000*l.* should be added, making the total sum expended on the guaranteed railways up to the end of the official year 1870–71 about 91,600,000*l.* This would bring the average cost per mile to 18,435*l.*

Annual expenditure of companies.

The following table gives the annual expenditure by all the companies:—

Year.	Miles opened during the Year.	Expended in England.	Expended in India.	Total.
		£	£	£
Up to 1850 -	—	130,375	44,781	175,156
In 1851 -	—	154,212	197,111	351,323
„ 1852 -	—	174,920	252,640	427,560
„ 1853 -	21½	252,484	418,165	670,649
„ 1854 -	50½	960,878	768,710	1,729,588
„ 1855 -	99	1,939,101	1,431,904	3,371,005
„ 1856	103¼	1,752,813	1,765,094	3,517,907
„ 1857 -	15½	1,324,873	2,092,395	3,417,268
„ 1858 -	140¾	1,940,052	3,551,073	5,491,125
„ 1859 -	194¼	2,507,949	4,654,923	7,162,872
„ 1860 -	211½	2,396,924	5,192,846	7,589,770
„ 1861 -	745¼	1,596,010	4,962,604	6,558,614
„ 1862 -	770	1,854,289	3,956,563	5,810,852
„ 1863 -	165¼	1,411,661	3,360,114	4,771,775
„ 1864 -	445¾	1,387,699	2,418,345	3,806,044
„ 1865 -	387½	2,192,090	3,192,323	5,384,413
„ 1866 -	199¼	3,942,598	3,816,957	7,759,555
„ 1867 -	369⅛	4,045,584	2,979,376	7,024,960
„ 1868 -	80	1,935,012	2,613,626	4,548,638
„ 1869 -	260½	2,156,114	2,236,913	4,393,027
„ 1870 -	549	3,487,112	1,949,512	5,436,624
To end of 1870	4,807⅞	37,542,750	51,855,975	89,398,725

REVENUE.

Revenue.

41. The revenue derived from the railways during the year ending 31st December 1870 amounted to 2,846,600*l.*, being about 340,000*l.* in excess of the previous year. The gross receipts in 1870 were 6,213,865*l.*, compared with 5,709,382*l.* in 1869, and the expenses 3,367,261*l.* and 3,203,171*l.* respectively.

Guaranteed interest.

42. The amount paid by the Government for guaranteed interest during the corresponding period was in excess of the net receipts by 1,366,000*l.*, entailing to that extent a charge upon the revenues of the country. Of this, however, a sum of 500,000*l.* may be taken as having been paid upon capital not yet representing open or productive lines. The Oude and Rohilkund Railway Company, for instance, received interest upon 3,400,000*l.*, whereas only about 500,000*l.* was expended in the section which is at work. The same may be said of the interest for the capital expended on the Chord line of the East Indian, amounting to about 200,000*l.*, and of portions of the Great Indian Peninsula, Madras, Eastern Bengal, and others, which have either only recently been opened or are still in progress. But after taking these cases into account a considerable deficiency still remains, and although I believe that the earnings of some of the lines will soon cover the guaranteed interest, a certain amount will probably for some few years have to be borne by the State.

Gross receipts.

43. The gross receipts from passenger traffic in 1870 were 1,924,378*l.*, being 187,210*l.* in excess of 1869, when they were 1,737,168*l.* Those from goods traffic were 4,149,978*l.* in 1870, and 3,808,767*l.* in 1869. Miscellaneous receipts were 139,509*l.* and 163,447*l.* respectively.

Economy for the future.

44. While much may be done towards the improvement of the revenue from railways by wise economy, prudent management, and an equitable adjustment of rates and fares, their prosperity must in a great measure depend upon the general advance in the trade and condition of the people of the country. When commerce is active and labour is in demand, railways will thrive if they are properly managed. During the past year trade has been depressed and railways have suffered. Much of the cotton which had been grown has not found its way to the coast, and in some places it has been stored or buried to wait for better times. At the same time the high amount of working and maintenance expenses on certain lines seem to imply either an absence of strict economy or imperfect construction in the first instance, and to demand constant and earnest attention from the managers of the railways.

Recent depression of trade.

45. The following tables furnish the receipts and expenses of each line during the last two years, and the amount paid for guaranteed interest by the Government to the 31st December last. It will be seen that while 33,995,835*l.* has been advanced on this account, a sum of 16,403,373*l.* has been earned by the railways, and paid to the State, leaving 17,592,462*l.*, a portion of which may be recovered from the half surplus profits of those lines whose earnings exceed five per cent.

STATEMENT of the REVENUE in 1869 and 1870.

Railway.	Receipts.								Expenditure.						Per-centage of Working Expenses to Gross Receipts.		Net Receipts.	
	Passengers.		Goods.		Miscellaneous.		Total.		Maintenance.		Working.		Total.					
	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	£	£	£			£	£
East Indian: Main line	678,532	722,510	1,748,474	1,840,728	54,907	68,231	2,481,913	2,631,469	178,561	193,897	857,031	905,562	1,035,592	1,099,459	41·72	41·78	1,446,321	1,532,010
„ Jubbulpore line	42,561	62,846	51,861	55,976	14,177	3,641	108,599	122,463	23,104	19,170	94,344	85,676	117,448	104,846	108·14	85·61	*Dr. 8,849*	17,617
Great Indian Peninsula	363,744	434,276	1,055,541	1,198,629	29,158	27,042	1,448,443	1,659,947	291,307	319,061	676,120	713,569	967,427	1,032,630	66·78	62·20	481,016	627,317
Madras	189,730	187,112	347,877	286,912	25,023	19,189	562,630	493,213	102,686	72,923	173,932	186,770	276,618	259,693	49·16	52·65	286,012	233,520
Bombay, Baroda and Central India	187,097	189,578	228,348	294,068	26,386	9,452	441,831	493,098	66,428	67,617	268,779	230,909	335,207	298,526	75·84	60·54	106,624	194,572
Scinde, Punjab and Delhi	124,529	132,589	172,430	232,060	5,533	4,878	299,492	419,527	41,516	53,123	199,510	280,002	241,026	333,125	80·47	79·40	58,466	86,402
Indus Steam Flotilla	11,139	5,211	75,243	94,937	1,663	780	88,045	100,928	—	338	67,675	63,202	67,675	63,540	76·86	62·95	20,370	37,388
Great Southern of India	42,632	39,318	26,432	30,317	1,022	1,327	70,086	70,962	13,634	11,338	30,809	31,308	44,443	42,646	63·41	60·09	25,643	28,316
Eastern Bengal	70,304	70,553	91,671	105,294	4,363	2,245	166,338	178,092	18,467	19,318	62,132	79,869	80,599	99,187	48·45	55·69	85,739	78,905
Oude and Rohilkund	15,572	16,329	5,387	6,071	332	2,183	21,291	24,583	2,808	3,395	14,595	14,210	17,403	17,605	81·22	71·61	3,888	6,978
Carnatic	3,972	3,054	856	409	21	55	4,849	3,518	1,059	742	2,851	3,225	3,910	3,967	80·63	112·76	939	*Dr. 449*
STATE.*																		
†Calcutta and South-eastern	4,450	5,050	2,218	1,993	737	394	7,405	7,437	3,103	1,861	7,675	5,969	10,778	7,830	145·55	105·28	*Dr.3,373*	*Dr. 393*
UNGUARANTEED.																		
Nulhuttee	5,906	5,952	2,429	2,584	125	92	8,460	8,628	1,214	968	3,831	3,239	5,045	4,207	59·63	48·75	3,415	4,421
Total	1,737,168	1,924,378	3,808,767	4,149,978	163,447	139,509	5,709,382	6,213,865	743,887	763,751	2,459,284	2,603,510	3,203,171	3,367,261	56·10	54·18	2,506,211	2,846,604

MEMORANDUM.—The figures are quoted from returns furnished by the Companies in India

* An incomplete return only has been received of the working of the Khangaum Railway.

† This line was surrendered by the company of the same name to the Government.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

Statement of the Total Amount of Interest advanced to each of the under-mentioned Railway Companies to 31st December 1870.

Railway Company.	Interest advanced to 31st December 1869.	Interest advanced during 1870.			Total.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian - - -	12,767,601 4 2	1,480,015 0 11	13,227 7 7	1,493,242 8 6	14,260,843 12 8
Great Indian Peninsula	6,780,613 6 10	1,026,633 9 9	19,749 19 8	1,046,383 9 5	7,826,996 16 3
Madras - - -	3,909,176 9 1	482,954 12 7	—	482,954 12 7	4,392,131 1 8
Bombay, Baroda and Central India - -	2,382,472 14 6	379,255 3 5	1,083 9 5	380,338 12 10	2,762,811 7 4
Scinde, Punjab & Delhi	2,617,931 10 1	479,902 8 10	2,395 0 6	482,297 9 4	3,100,228 19 5
Great Southern of India	394,701 19 0	94,474 14 8	—	94,474 14 8	489,176 13 8
Eastern Bengal - -	786,155 10 9	137,116 9 1	793 10 0	137,909 19 1	924,065 9 10
Oude and Rohilkund -	140,105 3 4	86,243 14 4	926 13 4	87,170 7 8	227,275 11 0
Carnatic - -	4,500 0 0	7,805 16 0	—.	7,805 16 0	12,305 16 0
Total - - £	29,783,257 17 9	4,174,401 9 7	38,176 0 6	4,212,577 10 1	33,995,835 7 10

Accountant General's Department,
8th April 1871.

W. G. GOODLIFFE,
Accountant General.

A STATEMENT showing approximately the AMOUNTS advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to the 30th June 1870, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total amount advanced to 31st December 1870.*	Aggregate of Net Revenue Balances for the several half-years to 30th June 1870, inclusive.	Net amount advanced.
	£	£	£
East Indian, Main line - - -	12,800,629	8,633,565	4,167,064
„ Jubbulpore line - -	1,460,214	33,250	1,426,964
Great Indian Peninsula - -	7,826,997	3,827,934	3,999,063
Madras - - - -	4,392,131	1,921,821	2,470,310
Bombay, Baroda and Central India -	2,762,811	949,109	1,813,702
Scinde, Punjab and Delhi - -	3,100,229	314,624	2,785,605
Great Southern of India - -	489,177	209,063	280,114
Eastern Bengal - - -	924,065	492,621	431,444
Oude and Rohilkund - - -	227,276	18,224	209,052
Carnatic - - - -	12,306	3,162	9,144
Total - -	£33,995,835	16,403,373	17,592,462

* The Interest for the half-year to 30th June 1870 not being paid until the succeeding half-year.

Accountant General's Department,
8th April 1871.

W. G. GOODLIFFE,
Accountant General.

Guarranteed interest.

46. The following statement gives the net amount of guaranteed interest paid by the Government on account of railway capital in each *official* year from 1856-57, *i.e.*, the amount which had to be borne by the revenue of the year after the net receipts from the railways had been applied towards the reduction of the advances for interest. The official year up to 1866 ended on the 30th April. Since that time it has been made to terminate on the 31st March. In my last report a similar statement was given, but the guaranteed interest on the Madras Irrigation capital was inadvertently included.

STATEMENT of GUARANTEED INTEREST advanced by GOVERNMENT on RAILWAY CAPITAL in each of the following Years, less Net Traffic Receipts.

	£		£
1856–57	404,197	1864–65	1,553,936
1857–58	526,420	1865–66	23,667
1858–59	606,046	1866–67	684,002
1859–60	796,872	1867–68	1,491,565
1860–61	1,096,332	1868–69	1,651,504
1861–62	1,396,991	1869–70	1,498,084
1862–63	1,541,140	1870–71	1,809,430*
1863–64	1,634,634		

TRAFFIC AND WORKING.

Traffic.

47. The statistics contained in the tables hereafter given furnish full particulars of the traffic and working of the various lines of railway now open. The general

Passenger.

results with regard to passenger traffic show that the passenger tickets numbered 18,224,859, of which 135,829 were first class, 603,486 second, 584,980 intermediate, 14,181,221 third, and 2,719,343 fourth or coolie. Thus the third and fourth composed 92·72 per cent., the second and "intermediate" 6·52 per cent., and the first only ·76 per cent. of the whole.

48. Each first-class passenger paid 14*s.*, and travelled 112 miles at 1½*d.* per mile.

„	second	„	4*s.* 1¾*d.*,	„	48	„	1·02*d.* „
„	third	„	1*s.* 8½*d.*,	„	58	„	·35*d.* „
„	fourth	„	1*s.*	„	40	„	·30*d.* „

Taking the passenger trains alone (exclusive of mixed and special), the average distance run by each train was 104 miles.

Goods.

49. The merchandise carried amounted to 2,633,687 tons, exclusive of coal, coke, and minerals, of which there were 801,582 tons. According to the returns furnished from India by the several companies the average distance run by each train with goods would be 144, with minerals 51, miles. The average amount paid for each ton of merchandise would be 1*l.* 5*s.*, and of minerals 6*s.* 7*d.* Thus the average amount paid for each ton of merchandise per mile would be 2·08*d.*, and for each ton of minerals 1·5*d.*†

50. The staples of the country which form the principal articles of traffic are grain, seeds, cotton, salt, sugar, jute, opium, timber, and hides. Fruit and vegetables are, in the neighbourhood of large towns, also now conveyed in large quantities. The chief articles of import which are carried up country by the railways are piece goods, iron, hardware, metals, cloth, and wines.

The following statement gives the quantities of these and some of the other principal articles which have been conveyed during the last year.

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* Partly estimated.

† In the Appendix will be found a paper by Mr. Rendel on the results of the working of the East Indian Railway during the year. His data are probably more accurate than those upon which the above results are arrived at, in consequence of the necessity in the latter case of excluding the mixed trains. He makes out the average charge per mile to all passengers to be ·38 of a penny on the East Indian Railway, and for goods 1·13 pence per ton.

STATEMENT of the QUANTITIES of the PRINCIPAL COMMODITIES conveyed on the GUARANTEED RAILWAYS in 1870, with the AMOUNTS paid for their CONVEYANCE.

ARTICLE.	East Indian.		Great Indian Peninsula.		Madras.		Bombay, Baroda and Central India.		Scinde, Punjaub and Delhi.		Great Southern of India.		Eastern Bengal.		Oude and Rohilkund.		Carnatic.	
	Quantity.	Receipts.	Quantity.	Receipts.	Quantity.	Receipts.	Quantity.	Receipts.	Quantity.	Receipts.	Quantity.	Receipts.	Quantity.	Receipts.	Quantity.	Receipts.	Quantity.	Receipts.
Cloth	Tons. —	£ —	Tons. —	£ —	Tons. —	£ —	Tons. —	£ —	Tons. —	£ —	Tons. 515	£ 1,370	Tons. —	£ —	Tons. —	£ —	Tons. 96	£ 39
Coal and Coke	232,802	142,092	2,240	2,104	—	—	—	—	—	—	—	—	14,626	4,953	—	—	—	—
Coffee	—	—	—	—	4,266	6,702	—	—	128	199	—	—	—	—	—	—	—	—
Cotton	33,243	133,156	90,641	360,825	8,630	18,638	43,158	71,563	8,416	7,817	—	—	—	—	397	101	—	—
Dried Fruits	—	—	9,954	22,755	—	—	8,858	11,052	3,440	2,926	—	—	—	—	—	—	—	—
Grain	85,999	78,360	—	—	24,191	16,666	77,627*	687,146	27,312	25,702	31,565	10,140	8,408	3,369	2,808	347	80	15
Green Fruits and Vegetables	—	—	10,180	11,886	—	—	6,879	5,521	1,292	1,124	1,077	1,095	—	—	397	101	—	—
Hides	—	—	702	1,708	—	—	—	—	—	—	546	1,159	3,185	2,247	497	96	—	—
Jagree and Sugar	—	—	—	—	13,578	26,859	12,865	18,709	9,434	7,734	—	—	—	—	—	—	—	—
Jute	—	—	—	—	—	—	—	—	—	—	—	—	70,303	70,433	—	—	—	—
Metals and Hardware	90,023	285,827	19,631	39,679	9,101	10,213	5,884	8,563	1,969	1,985	—	—	—	—	—	—	—	—
Oil, &c.	—	—	3,763	7,201	6,012	6,070	—	—	702	2,157	655	1,211	—	—	—	—	50	11
Opium	—	—	4,034	36,202	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Piece Goods and Twist	40,726	174,836	15,774	59,071	—	—	5,434	14,423	4,684	10,049	—	—	9,525	10,213	285	77	—	—
Rice	88,584	121,926	—	—	33,563	20,034	—	—	—	—	—	—	—	—	—	—	41	7
Salt	102,649	98,739	59,684	94,148	55,066	33,897	—	—	1,441	1,366	7,038	3,377	—	—	3,997	375	1,520	145
Seeds	166,936	220,374	147,210	173,142	11,977	10,447	—	—	6,052	4,007	2,471	2,389	14,361	9,427	463	64	198	43
Silk	—	—	—	—	—	—	—	—	166	762	—	—	—	—	—	—	—	—
Timber	—	—	7,504	12,254	11,876	5,732	6,425	5,406	884	433	—	—	—	—	504	120	—	—
Wines, Spirits, and Beer	8,773	44,151	5,006	14,525	—	—	—	—	7,867	37,990	—	—	—	—	959	376	—	—
Tobacco	—	—	330	578	—	—	4,601	61,059	284	382	—	—	4,246	25,161	—	—	—	—

* Including seeds.

Increase of traffic.

51. Comparing the results with the previous year, there is, as before stated under the head of revenue, a slight improvement in the gross receipts. Those per train mile almost correspond, being 8·49*s.* in 1870, and 8·47*s.* in 1869. The gross expenditure in 1870 was 3,343,139*l.*, and 3,135,497*l.* in 1869, and was 55 per cent. of the gross receipts in the former, and 57 in the latter. The receipts and expenses per train mile in each department will be found among the following statistics. The number of passengers has increased from 16,014,609 to 18,228,887, the proportion in the different classes being about the same. While the length of line open (including double lines) has increased from 4,065 to 4,780, the numbers of passengers per mile in 1869 and 1870 have been 3,940 and 3,971 respectively, and the amounts of goods were 636 and 716 tons per mile.

Working.

52. The number of locomotives and rolling stock belonging to each company and employed to carry on the traffic just described is given in the accompanying table.

Railway Company.	Locomotives.			Passenger Carriages.		Trucks and Wagons.		Total Number of Vehicles on 31st December 1870.
	Former Number.	Added in 1870.	Total Number, 31st Dec. 1870.	Former Number.	Added in 1870.	Former Number.	Added in 1870.	
East Indian	537	*	535	901	22	6,562	284	7,769
Great Indian Peninsula	264	60	324	1,079	184	5,892	473	7,628
Madras	109	15	124	279	31	3,152	91	3,553
Bombay, Baroda and Central India	63	9	72	183	—	2,874	—	3,057
Scinde, Punjaub and Delhi	119	33	152	384	101	2,389	193	3,067
Great Southern of India	17	4	21	41	—	270	—	311
Eastern Bengal	43	—	43	124	22	640	10	796
Oude and Rohilkund	6	4	10	33	1	89	4	127
Carnatic	4	—	4	37	—	43	—	80
Total	1,162	123	1,285	3,061	361	21,911	1,055	26,388

* Two locomotives were condemned as worn out.

SUMMARY of TRAFFIC on the INDIAN RAILWAYS in 1870.

SUMMARY of TRAFFIC on the

Railway.	Number of Miles of Open Line.			Number of Miles of Sidings.	Passenger Traffic.									Goods		
					Number of Passengers (exclusive of Holders of Season and Periodical Tickets).						Number of Holders of Season and Periodical Tickets.	Number of Carriages and Palkees.	Number of Horses.	Number of Dogs, &c.	Live Stock.		
	Double.	Single.	Total.		First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Total Number of Passengers.					Number of Cattle.	Number of Sheep.	Number of Pigs, &c.
GUARANTEED.																	
East Indian (Main Line) -	278	853	1,131	251	31,164	96,389	564,837	4,443,736	—	5,136,606	1,138	1,211	4,442	7,282	370	1,305	29
„ (JubbulporeLine)	—	224	224	22	3,802	11,513	14,994	185,914	—	215,723	80	90	401	472	86	6	—
Great Indian Peninsula - -	287	971	1,258	*	29,840	166,011	—	1,502,547	1,537,617	3,326,024	599	636	4,726	5,331	66	248,919	40
Madras - - - -	—	783	783	91	10,089	107,724	—	1,774,866	212,887	2,105,566	7	918	4,332	2,780	977	4,891	1,761
Bombay, Baroda and Central India - - - -	18	294	312	54	13,753	118,998	—	2,423,097	—	2,555,848	990	279	2,255	2,503	4,078	161,259	309
Scinde, Punjaub and Delhi -	5	661	666	125	15,514	35,231	726	1,919,883	—	1,971,409	—	420	3,962	6,013	128	40	—
Great Southern of India -	—	168	168	14	1,197	10,637	—	771,921	—	783,755	—	114	317	408	97	366	14
Eastern Bengal - -	—	113	113	*	27,340	36,348	—	293,149	968,070	1,324,907	1,155	112	893	1,416	54	30	—
Oude and Rohilkund - -	—	42	42	5	2,537	8,056	535	343,184	—	354,292	—	67	366	689	42	—	—
Carnatic - - - -	—	19	19	2	230	5,243	—	74,299	—	79,772	—	7	7	32	—	7	—
STATE.																	
Calcutta and South-eastern -	—	28	28	9	—	5,227	—	282,250	—	287,477	59	4	20	77	153	29	1
Khangaum - - -	—	8	8	1	231	546	—	8,085	769	10,531	—	—	—	—	—	—	—
UNGUARANTEED.																	
Nulhuttee - - -	—	28	28	*	623	1,653	3,388	67,385	—	72,949	—	28	25	84	—	—	—
Totals - -	588	4,192	4,780		135,829	603,486	584,980	14,131,221	2,719,343	18,224,859	4,028	3,915	21,751	27,037	6,051	416,852	2,154

* Not stated.

MEMORANDUM.—The figures are quoted from the

INDIAN RAILWAYS in 1870.

Traffic.				Number of Trains run.						Number of Miles travelled by Trains (exclusive of Shunting, &c.)						Number of Engines employed.
Minerals (including Earth and Railway Materials).			Number of Tons of Merchandise (exclusive of Live Stock and Minerals).	Passenger.	Goods.	Mineral.	Mixed.	Extra.	Total Number of Trains.	Passenger.	Goods.	Mineral.	Mixed.	Extra.	Total Number of Miles.	
Number of Tons of Coal and Coke.	Number of Tons of other Minerals.	Total Number of Tons of Minerals.														
269,486	15,262	284,748	885,909	2,397	7,019	2,665	17,681	4,679	34,444	153,679	2,424,876	415,231	2,366,764	710,062	6,070,662	426
390	—	390	69,037	—	491	—	1,460	334	2,285	—	80,011	—	326,337	42,903	449,251	37
2,210	429,874	432,114	540,465	10,684	18,504	5,130	5,133	—	39,456	1,215,252	1,820,159	41,168	556,528	—	3,633,107	252
709	40,368	41,077	303,042	—	—	—	9,550	688	10,238	—	—	—	1,443,044	49,874	1,492,918	109
5,396	11,368	16,764	244,796	730	4,593	2,084	8,247	177	15,831	223,380	376,686	30,041	285,102	10,707	934,316	53
232	1,458	1,740	279,040	15	3,582	—	4,675	304	8,576	1,036	360,664	—	682,583	17,128	1,061,411	75
—	610	610	76,809	—	—	—	3,220	—	3,220	—	—	—	239,608	—	239,608	21
14,625	5,044	19,669	171,500	3,132	1,670	—	626	6	5,434	172,327	138,855	—	52,584	756	364,522	*
—	477	477	26,869	—	—	405	982	37	1,424	—	—	16,884	40,740	2,044	59,668	15
—	10	10	2,835	—	—	—	1,460	8	1,468	—	—	—	27,740	152	27,892	4
556	132	688	21,434	—	—	—	1,510	28	1,538	—	—	—	38,360	685	39,045	3
—	—	—	11,463	—	153	—	310	—	463	—	474	—	2,480	—	2,954	1
3,009	226	3,235	6,457	—	—	—	730	33	763	—	—	—	20,452	924	21,376	4
296,753	504,829	801,582	2,633,657	16,958	36,012	10,284	55,592	6,294	125,140	1,765,674	5,201,125	512,374	6,082,382	835,235	14,396,790	

Returns furnished by the Agents in India.

* Not stated.

Summary of Traffic on the Indian Railways in 1870—*continued.*

Railway.	Fares per Mile by ordinary Trains.					Gross Receipts from Passenger Traffic.													Gross Receipts from Goods Traffic.								
						Receipts from Passengers.							Excess Receipts from Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Receipts from Mails.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic.	Receipts per Train Mile from Passengers.		Minerals (including Earth and Railway Materials).						Receipts per Train Mile from Goods.	Total Receipts from all Sources of Traffic.	Traffic Receipts per Train Mile.
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.						Live Stock.	Coal and Coke.	Other Minerals.	Total Receipts from Minerals.	General Merchandise.	Total Receipts from Goods Traffic.			
GUARANTEED.	pies.	pies.	pies.	pies.	pies.	£	£	£	£	£	£	£	£	£	£	£	£	s.	£	£	£	£	£	£	s.	£	s.
East Indian (Main Line)	18	9	4½	3	—	33,094	37,319	47,241	502,220	—	4,798	624,672	55,816	12,835	6,065	23,122	722,510	2·33	637	131,510	29,124	160,634	1,679,457	1,840,728	6·06	2,563,238	8·44
„ (Jubbulpore Line)	18	9	4½	3	—	4,523	4,958	3,663	35,418	—	152	48,714	4,548	2,798	1,487	5,299	62,846	2·79	32	289	—	289	55,655	55,976	2·49	118,822	5·28
Great Indian Peninsula	18	9	—	4	2½	28,769	40,376	—	193,003	118,393	1,010	381,551	48,871	—	3,854	—	434,276	2·39	6,521	2,104	56,615	58,719	1,133,389	1,198,629	6·59	1,632,905	8·98
Madras { Day / Night	18 / 32	5 / 12	—	3	2	11,160	14,708	—	127,690	7,640	28	161,226	20,226	—	2,626	3,034	187,112	2·50	555	401	29,187	29,588	256,769	286,912	3·84	474,024	6·35
Bombay, Baroda and Central India	15	7	—	{3½ / 3}	—	4,383	12,672	—	150,196	—	1,308	168,559	15,538	170	5,311	—	189,578	4·06	7,780	1,234	4,645	5,879	280,409	294,068	6·29	483,646	10·35
Scinde, Punjaub and Delhi	18	9	*	2½	—	8,273	10,016	146	137,787	—	—	156,222	14,540	484	930	10,413	182,589	3·44	55	65	2,278	2,343	229,662	232,060	4·37	414,649	7·81
Great Southern of India	18	5	—	3	—	597	1,031	—	35,635	—	—	37,263	1,898	—	157	—	39,318	3·28	60	—	255	255	30,002	30,317	2·52	69,635	5·85
Eastern Bengal — formerly reduced to	18 / 12	9 / 6	4½	3	—	3,445	2,368	14,486	43,810	—	959	65,068	5,201	—	284	—	70,553	3·87	27	4,868	2,370	7,238	98,020	105,204	5·77	175,847	9·64
Oude and Rohilkund	18	9	—	3	2	928	1,048	—	32	12,323	—	14,331	1,735	—	263	—	16,329	5·47	2	—	83	83	5,986	6,071	2·03	22,400	7·50
Carnatic	12	6	—	4	—	24	289	—	2,701	—	—	3,014	40	—	—	—	3,054	2·19	—	—	1	1	403	409	·29	3,463	2·49
STATE.																											
Calcutta and South-eastern	—	9	—	3	—	—	402	—	4,414	—	25	4,841	155	—	54	—	5,050	2·58	13	57	12	6	1,911	1,993	1·02	7,043	3·60
Khangaum	18	9	—	4	2½	19	21	—	144	7	—	191	34	—	—	—	225	1·52	—	—	—	—	788	788	5·33	1,013	6·85
UNGUARANTEED.																											
Nulhuttee	30	15	7½	4	—	239	194	377	4,156	—	—	4,966	663	—	323	—	5,952	5·56	—	690	35	725	1,859	2,584	2·41	8,536	7·93
Totals						95,454	125,402	51,427	1,207,882	182,173	8,280	1,670,618	169,265	16,287	21,354	41,863	1,919,392	2·66	15,682	141,218	124,608	265,826	3,774,321	4,056,829	6·03	5,975,221	8·30

MEMORANDUM.—The figures are quoted from Returns furnished by the Agents in India.
* Not stated.

Statement of the Expenditure on Revenue Account in 1870.

Railway.	Maintenance and Renewal of Way and Works.		Cost of producing Locomotive Power by Wages and Materials.		Repairs and Renewals of Carriages and Wagons.		Traffic Charges.		Rates and Taxes.		Compensation for Personal Injury, &c.		Compensation for Damage and Loss of Goods.		Legal and Parliamentary Expenses.		Miscellaneous Working Expenditure, not included in the foregoing.		Total Working Expenditure.	
	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.
GUARANTEED.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.
East Indian (Main Line)	193,897	7·66	378,453	14·96	106,462	4·21	218,664	8·64	3,419	·13	38	·00	4,885	·19	688	·02	192,953	7·63	1,099,459	3·62
„ (Jubbulpore Line)	19,170	10·24	52,876	28·24	7,994	4·27	11,253	6·01	—	—	—	—	143	·07	—	—	13,410	7·16	104,846	4·66
Great Indian Peninsula	319,061	21·07	337,961	22·33	78,589	5·19	196,354	12·97	1,157	·08	3,446	·23	889	·06	2,287	·15	92,936	6·14	1,032,680	5·68
Madras	72,923	11·72	96,095	15·45	12,341	1·98	43,103	6·93	12,078	1·94	—	—	1,395	·22	1,023	·16	20,735	3·33	259,693	3·27
Bombay, Baroda and Central India	67,617	17·36	89,735	23·05	25,356	6·51	42,929	11·02	1,240	·31	1,760	·45	1,103	·28	911	·23	67,875*	17·44*	298,526	6·39
Scinde, Punjaub and Delhi	53,123	12·01	124,038	28·04	17,880	4·04	70,921	16·03	2,015	·45	3	·00	863	·19	241	·05	64,036	14·48	333,125	6·27
Great Southern of India	11,338	11·36	15,555	15·57	2,354	2·35	6,342	6·35	953	·95	—	—	20	·02	2	·00	6,082	6·08	42,646	3·55
Eastern Bengal	19,318	12·71	25,005	16·46	10,925	7·19	23,360	15·37	2,467	1·62	—	—	59	·03	387	·25	17,666	11·63	99,187	5·44
Oude and Rohilkund	3,395	15·65	5,768	23·20	971	3·90	3,885	15·62	77	·30	200	·80	40	·16	—	—	3,269	13·14	17,605	5·90
Carnatic	742	6·38	847	7·29	96	·83	490	4·21	65	·56	—	—	—	—	127	1·09	1,600	13·78	3,967	2·84
STATE.†																				
Calcutta and South-eastern	1,861	11·43	2,921	17·95	267	1·64	1,993	12·24	150	·91	—	—	1	·00	27	·17	610	3·75	7,830	4·01
UNGUARANTEED.																				
Nulhuttee	968	10·87	1,380	15·49	501	5·63	936	10·50	—	—	—	—	—	—	—	—	422	4·74	4,207	3·93
Totals	763,413	12·72	1,130,634	18·85	263,736	4·39	620,330	10·33	23,621	0·33	5,477	0·09	9,353	0·15	5,693	0·09	481,594	8·03	3,303,721	4·59

MEMORANDUM.—The figures are quoted from Returns furnished by the Agents in India.

* It may be explained that these high figures include a large sum for cartage of goods, as well as for fire insurance.

† An incomplete return only has been received for the Khangaum line.

Receipts and Expenses per Train Mile in 1869 and 1870.

Railway.	Gross Receipts.		Expenses.																				Net Receipts.	
			Maintenance.		Locomotive.		Rolling Stock.		Traffic.		Rates and Taxes.		Personal Compensation.		Compensation for Damages.		Legal.		Miscellaneous.		Total.			
	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.	1869.	1870.
Guaranteed.	*s.*	*s.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*s.*	*s.*	*s.*	*s.*
East Indian :—Main Line	8·14	8·66	7·03	7·66	14·99	14·96	3·67	4·21	8·83	8·64	0·15	0·13	0·01	0·00	0·07	0·19	0·04	0·02	5·97	7·63	3·39	3·62	4·75	5·04
„ Jubbulpore Line	5·29	5·45	13·52	10·24	37·42	28·24	3·89	4·27	7·77	6·01	0·01	—	0·00	—	0·05	0·07	0·01	—	6·05	7·16	5·72	4·66	*Dr. 0·43*	0·78
Great Indian Peninsula	10·43	9·14	24·64	21·07	27·61	22·33	7·28	5·19	15·98	12·97	0·32	0·08	0·29	0·23	*Cr. 0·07*	0·06	0·23	0·15	5·55	6·14	6·82	5·68	3·61	3·45
Madras	7·58	6·60	16·61	11·72	15·69	15·45	1·35	1·98	6·55	6·93	0·06	1·94	—	—	0·00	0·22	0·00	0·16	4·37	3·33	3·72	3·47	3·86	3·12
Bombay, Baroda and Central India	11·11	10·55	30·51	17·36	24·71	23·05	11·09	6·51	11·46	11·02	0·86	0·31	0·01	0·45	0·41	0·28	0·31	0·23	21·79	17·44	8·43	6·39	2·68	4·16
Scinde, Punjaub and Delhi	7·20	7·90	11·99	12·01	25·45	28·04	2·36	4·04	16·82	16·03	0·01	0·45	—	0·00	0·75	0·19	0·04	0·05	12·18	14·48	5·80	6·27	1·40	1·62
Great Southern of India	4·70	5·92	10·97	11·36	12·72	15·57	2·12	2·35	4·20	6·35	0·64	0·95	—	—	0·02	0·02	0·01	0·00	5·05	6·08	2·97	3·55	1·73	2·36
Eastern Bengal	9·10	9·77	12·13	12·71	15·43	16·46	2·55	7·19	16·07	15·37	0·82	1·62	—	—	0·33	0·03	—	0·25	5·60	11·63	4·41	5·44	4·69	4·32
Oude and Rohilkund	6·76	8·24	10·71	13·65	22·52	23·20	4·83	3·90	16·86	15·62	—	0·30	0·38	0·80	0·40	0·16	0·01	—	10·64	13·14	5·53	5·90	1·23	2·33
Carnatic	3·36	2·52	8·83	6·38	9·37	7·29	0·57	0·83	6·81	4·21	—	0·56	—	—	—	—	—	1·09	7·02	13·73	2·71	2·84	0·65	*Dr. 0·32*
State.																								
Calcutta and South-eastern	4·64	3·80	23·33	11·43	20·19	17·95	1·72	1·64	17·36	12·24	1·29	0·91	—	—	—	0·00	0·00	0·17	17·12	3·75	6·75	4·01	*Dr. 2·11*	*Dr. 0·20*
Unguaranteed.																								
Nulhuttee	7·39	8·07	12·73	10·87	16·35	15·49	7·20	5·63	8·83	10·50	—	—	—	—	—	—	—	—	7·79	4·74	4·40	3·93	2·99	4·13
	8·47	8·49	14·09	12·72	19·70	18·85	4·49	4·39	10·75	10·33	0·23	0·33	0·07	0·09	0·10	0·15	0·09	0·09	7·07	8·03	4·72	4·59	3·74	3·90

Memorandum.—The figures are quoted from Returns furnished by the Agents in India.

53. The train mileage receipts of the various lines vary from 3·80*s.* on the Calcutta and South-eastern, to 10·55*s.* on the Bombay, Baroda and Central India, the East Indian and the Great Indian Peninsula being at about the average, between 8*s.* and 9*s.* The train mileage expenses also vary, and bear a different proportion to the receipts in almost every case. While those of the Bombay, Baroda and Central India, and the Scinde, Punjab and Delhi, are at 6·39*s.* and 6·27*s.*, those of the East Indian, the Madras, and the Great Southern of India are at 3·62*s.*, 3·47*s.* and 3·55*s.* respectively. Thus the net mileage receipts of the East Indian main line are brought to 4·82*s.*, the Great Indian Peninsula to 3·30*s.*, the Madras to 2·88*s.*, the Bombay, Baroda and Central India to 3·96*s.*, the Eastern Bengal to 4·20*s.*, and the Scinde, Punjab and Delhi to 1·54*s.* A comparison of the departmental charges on the different lines may help to indicate where there is room for improvement. The Bengal lines at present have an advantage over those on the west coast and in Madras in respect of the supply of coal for fuel, but there appears to be no sufficient reason why the locomotive departments of the Great Indian Peninsula, and Bombay, Baroda and Central India Railways should be 22·33*d.* and 23·05*d.* per train mile respectively, while those of the Madras and Great Southern of India are 15·45*d.* and 15·57*d.* The traffic charges likewise in some cases present a contrast which seems to call for explanation. On the Scinde, Punjab and Delhi Railway the traffic expenses per mile reach 16·03*d.*; on the Oude and Rohilkund 15·62*d.*, and on the Eastern Bengal 15·37*d.*; while on the East Indian they are 8·64*d.*, on the Madras 6·93*d.*, and on the Great Southern of India 6·35*d.* Working.

54. With regard to fares, 1*s.* 8½*d.* does not seem a high charge for third-class passengers travelling 58 miles, or 1*s.* for fourth-class passengers going 40 miles; but the distances are long average journeys for these classes, and seem to suggest whether lower fares would not attract a large number who may now probably walk, or otherwise use the road, for short distances. Rates and Fares.

The rates and fares now in existence are given approximately in the following table:—

Railway.	Passengers, per mile.					Goods, per ton per mile.						
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	1.	2.	3.	4.	5.	6.	Special.
GUARANTEED.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	
East Indian	2¼	1⅞	9/16	⅜	—	1	1½	2¼	2½	3	—	On most lines there are special low rates for certain articles.
Great Indian Peninsula	2¼	1⅞	—	½	5/16	1½	1⅞	3	4½	6	—	
Madras { Day / Night	2¼ / 2¾	1⅞ / 1½	—	⅜	¼	1½	1¾	2½	3	4½	—	
Bombay, Baroda and Central India	1⅞	7/8	—	⅜	—	1	1¼	1⅞	2½	3½	5	
Scinde, Punjaub and Delhi	2¼	1⅛	—	5/16	—	1½	1⅞	2¼	3	3¾	—	
Great Southern of India	2¼	1⅛	—	5/16	—	1⅜	2¼	3	4½	6¾	—	
Eastern Bengal	1¾	⅞	9/16	⅜	—	1	1⅛	2	3	6	—	
Oude and Rohilkund	2¼	1⅛	—	⅜	¼	1¼	1⅞	2¼	3	3¾	—	
Carnatic	1½	¾	—	⅜	—	2	2½	3	4½	6	—	
STATE.												
Calcutta and South-eastern	—	1⅜	—	⅜	—							
Khangaum	2½	1⅛	—	½	5/16							
UNGUARANTEED.												
Nulhuttee	—	—	—	—	—	1½	2¼	3	4½	9	—	

55. The fuel question is always an important one in connexion with the working expenses of Indian railways, and it is satisfactory to find that native coal will soon be more extensively used. The coal from the Nerbudda fields is at length likely to be available for the railways in Central India. A tramway from the pits to the Great Indian Peninsula Railway is now being laid down, and the railway company has engaged to take a certain quantity monthly at a fixed price. Sanguine hopes are also entertained with respect to the Chanda coalfields, specimens from which have been favourably reported on after experiments with them. The mines are situated to the south of the Nagpore branch of the Great Indian Peninsula Railway, and a line is being laid down by the Government with the main object of obtaining a good supply of fuel from this source. With these aids a considerable reduction should take place in the working expenses of the locomotive department of the Great Indian Peninsula line, and more favourable results produced by the traffic. Fuel. Nerbudda and Chanda coalfields.

56. A regular system has been organised in the Madras Presidency for obtaining an adequate supply of wood fuel for railway purposes. It has been estimated that Supply of wood fuel.

nearly 100 square miles will be required to meet the demand; and already measures have been taken by the Forest Department for demarcating 26 miles in the districts of Cuddapah, North Arcot, Salem, and Coimbatoor, to be used for the cultivation of trees suitable for the working of the railways. Similar measures have also been adopted in the Punjaub and Scinde.

Conference.

57. While the carriages and vehicles used on the Indian railways have in some measure been constructed so as to meet the peculiarities of the climate and traffic, the English type has generally been followed. The experience which has now been gained in India, and the hints which have been taken from America and the continent of Europe by officers who have examined the railway systems there, pointed to the advantage of bringing together this knowledge and experience, and applying them to a consideration of how the requirements and the specialities of Indian railways might best be met and provided for.

58. The Government of India accordingly convened a conference, composed of competent officers connected with the Government Railway Department and representatives of the railway companies, to discuss and pronounce opinions upon various questions affecting the management of the railways. The conference was held in January, and on this occasion was presided over by Major F. T. Taylor, R.E., Consulting Engineer to the Government of Bengal.

Subjects of discussion.

59. The principal subjects of discussion were the rolling stock and the system of working the traffic. With regard to the former, the conference decided that it would be desirable to have a joint passenger stock for the through service on all trunk lines; that certain additional contrivances for keeping out the heat and dust, and for otherwise adding to the comfort of travellers by night as well as by day, should be applied to passenger carriages. The goods waggons recommended were covered vehicles, weighing $5\frac{3}{4}$ tons, and capable of carrying $9\frac{1}{4}$ tons.

60. On the subject of "working," the conference agreed that the speed of ordinary passenger and mail trains should be limited to 20 miles an hour, including stoppages, and its general opinion was that "the line clear" system was a desirable one. Other minor questions also were considered, such as communication between passengers and guards, and the locking of carriage doors.

61. Such meetings as these are very useful, being calculated to produce uniformity and to promote the introduction of all such improvements in the general system of working railways as may be considered desirable by the most intelligent officers employed on railway duties. It is to be hoped, therefore, that arrangements will be made for holding them periodically and in different places.

I have now to refer briefly to each undertaking.

EAST INDIAN RAILWAY.

62. This undertaking has now been completed by the opening of the Chord line on the 1st January last. Its whole length is 1,502 miles, of which 399 miles are made with a double line. The distance from Calcutta to Delhi, its northern terminus, is $953\frac{3}{4}$ miles by the new direct line; by the circuitous route, viâ Rajmahal, it is 1,019 miles. The branch from Nynee, three miles from Allahabad, to Jubbulpore is 224 miles in length; and other minor branches make up the total mileage above given. The cost of the railway up to the end of March was 30,401,276*l.*, or 20,200*l.* per running mile and 16,000*l.* per mile of single road. Its gross earnings last year were 2,753,932*l.*, and its expenses 1,204,305*l.*, leaving a net profit of 1,549,627*l.*, or rather more than 5 per cent.

The train mileage receipts for the last two years have been 7·96*s.* and 8·44*s.* respectively, and the expenses 3·39*s.* and 3·62*s.* Surplus profits to the amount of 140,000*l.* were earned on the main line in the half year ending the 30th June.

In the Appendix will be found a note by the Company's Consulting Engineer, containing some interesting particulars relative to the working of this railway during last year.

GREAT INDIAN PENINSULA RAILWAY.

63. The north-east portion of this undertaking, which has its terminus at Jubbulpore, was completed in March 1870, and the south-east line has recently been opened to Raichore, where it joins the Madras Railway. The bridge over the Kistna river, however, still remains to be finished, as well as the restoration of other viaducts and masonry works on various portions of the line. Until all this has been done, the railway cannot be regarded as complete; but its whole length of 1,272 miles, of which 287 are double, is sufficiently finished to enable the traffic to be carried on. During the past year 385 miles have been added to the open line. The capital ex-

penditure up to the 31st March had been 22,417,464*l.*, and if the estimated total expenditure of 26,000,000*l.* is correct about 3,500,000*l.* more will be required. The cost per mile open will then amount to 20,400*l.*, or 16,670*l.* for each mile of single line; but it seems probable now that the works will be completed for a less sum than was expected.

64. The gross receipts during the year 1870 were 1,659,947*l.*, and the expenses 1,032,630*l.*, leaving a net revenue of 627,317*l.*, as compared with 481,016*l.* of the previous year. There has been a considerable falling off in some of the principal articles of commerce, such as cotton and grain, in consequence of the state of trade. The maintenance and working charges continue high, having been 61·90 per cent. of the gross receipts.

MADRAS RAILWAY.

65. The whole of this undertaking, with the exception of the branch from Coimbatoor to the Neilgherry Hills, is now completed. Seventy-six miles were added during the year 1870, and since the beginning of the present year the north-west line to Raichore, where it joins the Great Indian Peninsula Railway from Bombay, has been opened, and the branch to Bellary has likewise been finished. The whole length upon which traffic is now carried is 832 miles; consisting of the south-west line to Beypore and the Bangalore branch, 492 miles; the north-west to Raichore and branch to Bellary, 340 miles. The plans for the Neilgherry branch have not yet been approved by Government. The accounts of the south-west and north-west lines were until June last kept separate, but arrangements were then made for amalgamating them, and it is now one undertaking in every sense. For the first time, an accident of a very serious nature, involving the loss of eight lives, occurred on this line during the past year. It was caused by some piers of the bridge over the Cheyair river giving way, and has been noticed in the early part of this Report. The capital account on the 31st March showed an outlay of 9,748,135*l.*, being at the rate of 11,600*l.* per mile.

66. The traffic returns during the year have not been satisfactory. The depressed state of trade and the outbreak of epidemics in certain districts have injuriously affected the traffic. Compared with the previous year, which was influenced by similar causes, the gross receipts decreased from 562,630*l.* to 493,213*l.*, and the expenditure from 276,618*l.* to 259,693*l.*

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

67. All the construction works on the original line, with the exception of the terminus at Bombay, having been now nearly completed, the principal operations in this undertaking are confined to the branch to Veerumgaum, which was commenced last November. The 77½ miles embraced in this line were let out in four contracts, and the first, from Saburmuttee to Samund, has already been opened for traffic. The moderate cost of this branch will diminish the high mileage rate of the whole line, the outlay on which up to the 31st March had been 7,436,158*l.*

68. The results of the traffic during the year have, upon the whole, been satisfactory. The earnings have increased, and the working charges have diminished. The gross receipts in 1870 were 493,098*l.*, compared with 299,492*l.* in the previous year, and the expenditure 298,526*l.*, as compared with 241,026*l.* The working and maintenance charges were 60·54 per cent. of the gross receipts. The train mileage receipts have fallen from 11·02*s.* in 1869 to 10·35*s.* in 1870, and the expenses per train mile have also been reduced from 8·45*s.* to 6·39*s.*; but there is still room for improvement. The effect of lowering the third-class passenger fares and certain goods' rates has not been yet fully demonstrated, but the present year will probably exhibit the benefits of that policy. The sea competition is a difficulty which this railway has to meet, and low rates will only tempt the trader to use the railway. In the months of February and March last, 18,334 bales of cotton out of 45,640 were taken by sea.

SCINDE, PUNJAUB AND DELHI RAILWAY.

69. The three lines of railway and the Indus Flotilla, which comprised this undertaking, have during the past year been amalgamated under the above title, so that there is now one capital and one revenue account for all, and greater economy as well as simplicity in the management has been secured. The bridge over the Sutlej, which was the only link wanting to complete the line between Delhi and Lahore, was opened on the 15th October by the Maharajah of Puttiala, and a continuous

line of railway communication from Calcutta and from Bombay to Moltuan was thus established.

70. The capital account on the 31st March showed that 10,106,700*l.* had been expended on the united undertaking, which consists of 675 miles of railway and a flotilla for the navigation of 500 miles of the River Indus.

71. The gross receipts for the year amounted to 520,455*l.*, and the gross expenditure to 396,665*l.*, leaving 123,790*l.* as net earnings, compared with 78,836*l.* for the previous year.

Bray arbitration.

72. The great arbitration case in which this company was concerned has at length been terminated by a compromise. The claim made by Mr. Bray, the contractor, against the company was for 213,595*l.* Proceedings commenced about 10 years ago. A sum of upwards of 34,000*l.* has been expended by the company in law charges, and the claimant has now accepted 45,000*l.* as a settlement.

GREAT SOUTHERN OF INDIA RAILWAY.

Tuticorin extension.

73. Although the surveys, plans, and estimates of the extension of this line to Tuticorin have been completed for some months, no commencement has been made with its construction. The question of gauge has had something to do with this delay, the Government having had under consideration whether the narrow gauge would not be suitable for the 210 miles embraced in the extension. As soon as this point is decided it is to be hoped active operations will immediately commence.

74. The capital expended on the open portion of this line to the 31st March last was 1,454,666*l.*, being under 9,000*l.* per mile.

75. The gross receipts on the open line during the year 1870 were 70,962*l.*, the expenditure being 42,646*l.*, and the net earnings 28,316*l.*, compared with 25,643*l.* of the previous year. The slight increase thus shown was entirely due to the merchandise traffic, that of passengers having fallen off.

EASTERN BENGAL RAILWAY.

Goalundo extension.
Goraie bridge.

76. The section between Kooshtee and Goalundo was opened on the 31st December last by the Governor General in person. The bridge over the Goraie river, which has been constructed under the superintendence of Mr. Bradford Leslie, is a work of considerable magnitude, and the successful manner in which all difficulties have been overcome reflects great credit upon Mr. Leslie and those employed with him. Its length is 1,760 feet, and it consists of 7 spans of 185 feet, and 10 of 45 feet. It is supported on iron cylindrical piers 138 feet long, some of them being 40 feet under the bed of the river. During its construction one of the piers was swept down by the force of the floods and has not been found since. The Eastern Bengal Railway is now 159 miles in length. The new northern terminus at Goalundo is situated at the confluence of the rivers Ganges and Brahmapootra, and is expected to become an important depôt for the produce of Eastern Bengal by intercepting the river traffic on its way from up country. The receipts from the line since the extension was completed afford promising hopes for the future. The capital expenditure up to the 31st March amounted to 2,860,667*l.* Some few additional works are being executed, but no very large outlay will be required, and the line when finished will probably have cost 18,000*l.* per mile.

Proposed extension.

77. Its extension still further to Darjeeling has been proposed, and plans for carrying it out are now under the examination of Government.

78. The gross earnings last year were 178,092*l.*, as compared with 166,338*l.* of the year 1869. The gross expenditure in the two years were 99,187*l.* and 80,599*l.* respectively, leaving the net profits for 1870 at 78,905*l.*, and for 1869 at 85,739*l.*

OUDE AND ROHILKUND RAILWAY.

Construction.

79. While construction operations have been vigorously carried on during the year, no addition has been made to the open line, which is still limited to the section between Cawnpore and Lucknow. The completion of the bridge over the Ganges at Cawnpore will unfortunately be deferred for another year, in consequence of the alterations which were considered to be necessary in the construction of the piers. It is expected that certain portions of the line will be shortly opened for traffic, the first being that from Lucknow to Byram Ghat.

80. The gross earnings on the open line amounted to 24,583*l.*, and the ordinary maintenance and working charges were 17,605*l.*, but of the expenditure which has been incurred in replacing the original light permanent way with rails and sleepers of a heavier description, a sum of about 40,000*l.* is regarded as a revenue charge, and will have to be paid out of future earnings.

CARNATIC RAILWAY.

81. The surveys and plans for the extension of this line have been made, but the sanction of the Government has not yet been given to the commencement of operations. It has been proposed to construct it with the 3-feet 3⅜-inch gauge, at an estimated cost of 4,900*l.* per mile. No further delay, it is to be hoped, will occur in laying out the line and proceeding with the works.

THE STATE RAILWAYS

82. Have been described in the early part of this report, with the exception of the Calcutta and South-eastern, leading from Calcutta to the Mutlah, which was surrendered to the Government by the company which constructed it, and is not yet in a prosperous condition, the results of the working during the year again exhibiting a small loss. Calcutta and South-eastern.

SUMMARY AND CONCLUSION.

83. It now only remains for me to recapitulate briefly the particulars given in the foregoing pages.

84. The extent of railway communication now open in India is 5,051 miles, of which 557 miles were completed last year, and 211 since the beginning of the present year. The three presidency towns and the capitals of the North-West provinces, and of the Punjab are now united, and the system of trunk lines laid out by Lord Dalhousie may be regarded as completed. This has been effected at a cost of about 70,000,000*l.*, and profits at the rate of about 3½ per cent. upon this sum were earned last year. A further sum of about 18,000,000*l.* has been expended upon the other lines open for traffic and upon those which are in progress, making a total outlay of 88,000,000*l.* upon railways up to the 31st March last. Miles open. Cost.

85. Materials to the value of more than 28,000,000*l.* have been sent out from this country for the railways since their commencement; and 263,499 tons, purchased for 1,611,512*l.*, were despatched last year. There are now nine companies, representing 51,887 shareholders, 5,367 bond or debenture holders, and 1,392 holders of debenture stock. Of this number 51,519 are Europeans, and 368 natives of India. Shipments. Proprietors.

86. It has not been a good year for traffic. The gross receipts were about 6,214,000*l.*, of which 1,924,000*l.* was obtained from passengers, and 4,150,000*l.* from the conveyance of goods, &c. The expenses amounted to about 3,368,000*l.*, leaving a net revenue of 2,846,000*l.*, showing an excess of 340,000*l.* over last year; but the mileage open and the capital expenditure have increased in a greater ratio. Traffic.

87. The amount paid by the Government for guaranteed interest last year was 4,212,577*l.* The net receipts fall short of this, leaving a sum of about 1,366,000*l.* to be borne by the revenues of the country. During the first half of the year the East Indian Railway Company earned surplus profits, and divided with the Government a sum of 130,094*l.* 13*s.* 3*d.* therefrom. Guaranteed interest. Surplus profits.

88. The results produced on some of the lines were satisfactory. On others there is room for improvements especially in regard to the reduction of working expenses. While the expenditure of some was in the proportion of 42 per cent. of the gross receipts, that of others was as high as 79 per cent. The train mileage receipts varies from 10·55*d.* to 2·52*d.*, and the expenses from 6·39*d.* to 2·84*d.* Working.

89. Of the 18,224,859 passengers conveyed, 92·73 per cent. were of the lowest classes; 6·52 per cent. second class; and ·75 per cent. first class. Compared with last year, there was an increase of 1,800,000 in the number of passengers. Goods to the amount of 3,435,269 tons and 425,057 head of live stock, were carried, compared with 3,359,792 tons and 430,983 head of live stock carried in the previous year. Passengers. Goods.

90. Accidents have not been so numerous as in previous years, but a very serious one occurred on the Madras line, by which eight lives were lost. A bridge over a Accidents.

river gave way, and a train was precipitated into the water. During the whole year 13 passengers lost their lives, and of these nine through causes within their control.

Conference.

91. A conference of Government and railway officers was held during the year, and several minor questions connected with the working of the lines and the character of the rolling stock were discussed and settled. This will probably be the first of a series of such meetings, and much advantage may be expected from them.

New gauge.

92. The new gauge for certain future undertakings has been fixed at 3 feet 3⅜ inches, that is, the French metre. Most of the State lines will be constructed on this scale. While the question of gauge was under consideration operations in connexion with the Government works were, with one or two small exceptions, kept in abeyance. Surveys have, however, been made of certain lines, for which estimates and designs are being prepared, and the promise of considerable progress during the next two or three years has been given.

I have the honour to be,

My Lord Duke,

Your Grace's very obedient humble servant,

JULAND DANVERS.

APPENDIX.

NOTE BY MR. RENDEL, ON THE WORK DONE BY THE EAST INDIAN RAILWAY IN THE YEAR 1870.

The company carried 5,137,744 passengers of various classes, and 1,170,658 tons (for the public) of minerals and goods, one fourth being minerals, besides parcels, horses, dogs, and mails, and fuel and other materials for the use of the line itself.

The company received for the transport of passengers, excluding special trains, the sum of 629,203*l.* 6*s.* 6*d.*, and for the transport of goods and minerals 1,831,526*l.*

From details of this traffic furnished by the company's officers it has been ascertained that the work done for the public in the carriage of passengers and goods represented approximately 397,391,526 passengers and 389,017,920 tons of goods and minerals carried one mile.

The average rate per mile therefore paid by passengers, taking all classes together, was approximately $3\frac{3}{10}$ pies, or, at the exchange of 1*s.* 10*d.* per rupee, ·38 of a penny. The average rate paid by goods, including terminals, was approximately $\frac{1}{3}\frac{1}{6}$ths of a pie per maund, or in English money and weight 1·13 pence, or say $1\frac{1}{8}d.$ per ton.

The train mileage run during the year according to the audited returns was,—

Passenger trains (excluding special troop) - -	2,182,155 train miles.
Goods - - - - - - - -	3,879,935 „

The receipts therefore per train mile were,—

From passenger trains, for passengers only - -	5*s.* $9\frac{1}{4}d.$ per mile.
From goods and minerals carried for the public in goods trains - - - - - - - -	9*s.* $5\frac{1}{4}d.$ „

The average number of passengers and of tons of goods in any train at any one time must therefore have been (dividing the average mileage receipts by the average rates per mile) 182 passengers in passenger trains, and 100 tons of public goods in goods trains.

These figures do not, however, represent the whole work done by the trains. The passenger trains carried parcels, mails, horses, carriages, and dogs. The goods trains, again, carried very large quantities of coals and railway materials for the working of the line, for which no payment is made.

The receipts from these sources of coaching traffic amounted to 94,811*l.*, which, if supposed to have been paid by passengers, would at the average rate before given raise the total number of passengers carried one mile to 457,272,000, the average mileage receipts from passenger trains, including special trains, to 6*s.* $7\frac{1}{4}d.$, and the average number in any passenger train at any one time to 209.

The railway materials carried for working purposes in the year amounted to 250,834 tons, chiefly coal. This weight was carried in the ordinary goods trains, with the assistance of 404,487 train miles run by the locomotive department. Assuming that this tonnage, if charged for, would have been carried at the ordinary special rate of $\frac{1}{4}$ pie per maund per mile, that is, for rather more than $\frac{2}{3}d.$ per ton, and that it was carried an average distance of 360 miles, the average charge for all kinds of goods would be reduced to $\frac{1}{9}$rd of a pie per maund, or, in English money and weight, to 1·03 pence per ton per mile; the average receipts per train mile would be raised to 9*s.* 11*d.*; and the average load of each goods train to $115\frac{1}{2}$ tons.

This load is materially below the maximum carrying power of the trains, which would be about 240 tons, mainly (1) because full train-loads can rarely if ever be obtained in both directions, (2) because the bulk of the mineral traffic necessarily involves empty return trains.

The cost of working, excluding Indian income tax, amounted per traffic train mile to 3*s.* 6*d.* Taking the train loads at 209 passengers for passenger and 100 tons for goods trains, and the cost of working both classes of trains to be the same, it follows that the average cost of carrying a passenger was approximately $1\frac{3}{4}$ pies, or $\frac{1}{8}$th of a penny, per mile, and of carrying goods $\frac{4}{5}\frac{1}{0}$ths of a pie per maund, or rather more than $\frac{4}{10}$ths of a penny per ton, per mile. Including the work done in the carriage of fuel, &c. for the line, the working cost per ton of goods would be reduced to $\frac{1}{5}\frac{0}{0}$ths of a pie per maund, or $\frac{1}{3}$rd of a penny per ton.

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REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

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Indore or Holkar State Railway	86	37
Carwar and Hooblee Railway	87	37
Hyderabad Railway	88	38
Oomrawuttee and Khangaum Railways	89–91	38
Wurda Valley Coal Railway	92	38
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Appendix by Mr. A. M. Rendel on rates, work done, and cost of doing it on the principal Indian railways during the latter half of 1871	—	40, 41

REPORT.

To His Grace the DUKE of ARGYLL, K.T., Secretary of State for India.

MY LORD DUKE, India Office, 1st July 1872.

I HAVE the honour to lay before your Grace the following Report on Railways in India for the year 1871–72. The revenue accounts and statistical statements are made up to the end of 1871. Those relating to the capital expenditure are brought up to the close of the official year ending the 31st March 1872.

2. During the year 1871 a length of 250 miles of railway was completed, and since the 1st January last 128 miles more have been finished, making a total length of 5,204½ miles now open for traffic. Of this extent, 5,136 miles are in the hands of guaranteed companies, and 68½ are in the direct possession of Government. A further length of about 2,440 miles is in course of construction, of which 940 are being executed by Companies and 1,503 by Government. The sections which make up the 250 miles opened during the past year are the Chord line of the East Indian Railway, which is 124 miles in length, and joins the extremities of the arc formed by the original main line between Raneegunge and Luckeserai; the coal branch from the Chord line to the Kurhurballee coalfield, 23 miles in length; 15 miles of the Great Indian Peninsula Railway extending from the east bank of the Kistna River to Raichore, where the line from Madras joins it; 49 miles of the Madras Railway, including the section which extended this Company's system to Raichore; and 39 miles of the Wudwan branch of the Bombay, Baroda, and Central India Railway. It is worthy of remark that this last portion of Railway, which is constructed on the 5′ 6″ gauge, was completed and opened within a year of the acquisition of the land at a cost of about 7,000*l.* a mile. Progress during 1871.

3. The following table gives the length of each undertaking and the stages of progress at which those not yet completed have arrived:—

	Railway.	Gauge.	Length of Line.	Length opened during 1871.	Length opened since Dec. 1871.	Total Length opened.	Portion laid with Double Line.	Length remaining to be finished.
Guaranteed.	East Indian – Main line	5′ 6″	1,280	147	—	1,280	415	—
	East Indian – Jubbulpore line		224	—	—	224	—	—
	Great Indian Peninsula	5′ 6″	1,270	15	10	1,270	287	—
	Madras	5′ 6″	862	49	—	832	—	30
	Bombay, Baroda and Central India	5′ 6″	391	39	40	390	23	1
	Scinde, Punjab and Delhi	5′ 6″	674	—	—	674	—	—
	Great Southern of India	5′ 6″	378	—	—	168	—	210
	Eastern Bengal	5′ 6″	159	—	—	159	—	—
	Oude and Rohilkund	5′ 6″	733	—	78	120	—	613
	*Carnatic	3′ 3¾″	100	—	—	19	—	81
State.	Nulhattee	4′ 0″	27½	—	—	27½	—	—
	Calcutta and South-eastern	5′ 6″	28	—	—	28	—	—
	Punjab Northern	3′ 3¾″	270	—	—	—	—	270
	Indus Valley	3′ 3¾″	480	—	—	—	—	480
	Rajpootana	3′ 3¾″	370	—	—	—	—	370
	Indore to Khundwa (Holkar's)	3′ 3¾″	86	—	—	—	—	86
	Patree branch of Bombay, Baroda, and Central India Railway	5′ 6″	22	—	—	—	—	22
	Carwar and Hooblee	3′ 3¾″	144	—	—	—	—	144
	Wurda Valley	5′ 6″	15	—	—	—	—	15
	BERAR.							
	Khamgaon	5′ 6″	7½	—	—	7½	—	—
	Oomrawuttee	5′ 6″	5½	—	—	5½	—	—
	NIZAM'S GOVERNMENT.							
	Goolburga to Hyderabad	5′ 6″	116	—	—	—	—	116
	Total		7,642½	250	128	5,204½	725	2,438

4. It will be observed that the State lines at present form a very small proportion of those which are completed; but several are in progress, and contracts have been made for the execution of the works and for the provision of permanent way materials and rolling stock for many miles. The lines are, for the most part, con-

* The gauge of the open line of the Carnatic is at present 3′ 6¾″, but it is to be reduced to 3′ 3¾″.

State lines.

structed on the metre gauge, and every endeavour has been made to keep down expense by using the lightest rails and stock suitable for the expected traffic. It is still contended by some engineers that very little will be saved by adopting the narrow gauge, but the time is approaching when the question will be settled by absolute results. The system of administration which is applied to the State lines is as follows:—The different projected railways are divided into suitable lengths, and the general management of the operations is placed, according to their importance, in charge of Chief or Superintending Engineers. There is also a Deputy Controller for each line, who is responsible for everything connected with the accounts and financial management. Both the Engineer and the Controller are directly under the orders of the Supreme Government, which is advised in respect to the works by a Consulting engineer specially appointed for the purpose, and in respect to the accounts by the Accountant General in the Public Works Department. The stores and materials which have to be supplied from this country are obtained upon requisitions from India, under the orders of the Secretary of State in Council, through the store department of this office, on the advice of an Inspecting officer, assisted by a Consulting engineer, who are jointly answerable for the specifications and for the examination and testing of the goods before they are despatched to India.

Damage from floods.

5. The rails used are flat-footed, carried on timber sleepers, without chairs, weighing 20 kilograms per lineal metre, which is nearly 40 lbs. to the yard. The maximum rigid wheel base of the locomotives is 3 metres; the maximum weight on a pair of wheels is to be 6,000 kilograms.

6. During the past year the works on several lines have suffered severely from floods. Both in Bengal, in the North-West provinces, and in Bombay, great damage was done; in some places from 20 to 30 inches of rain fell in the course of two or three days, and the ground being already soaked, the water ran off in torrents, carrying away bridges, embankments, roadways, and villages. In one river a scour 60 feet below its ordinary bed was produced. Large lakes were formed in valleys, which were as rough as the sea in a high wind. The native city of Jounpoor, on the Goomti River, consisting of 9,000 houses and 25,000 inhabitants, was nearly destroyed. The principal buildings and from 2,000 to 3,000 houses were reported to be swept away, and 10,000 persons were for a time deprived of their homes. The floods in Bengal were caused by unusual storms near the sources of the rivers, which, after a course of some thousands of miles, find their exit in the Bay of Bengal. It would appear to be almost possible, in such a case, to give notice by telegraph of the occurrence of exceptional rainfalls, so that precautions might be taken before the effects of the flood reach the distant plains of Bengal. On the Eastern Bengal Railway, while the floods were sweeping down bridges and culverts, it was found necessary to cut more water way through embankments to save the line; with a few days warning this might have been done beforehand. The repair of the damage done to this railway is estimated at Rs. 7,87,509. The Delhi Railway, between Umballa and Sirhind, suffered to an extent of about Rs. 20,80,000. The Bombay, Baroda, and Central India to the extent of Rs. 1,68,000.

7. The floods which produced these disastrous effects are described as unprecedented, but the recorded information on the subject of rainfall in India is still so imperfect, and the variations of the seasons from one extreme to another are so great, that the engineer has been obliged to work, in a great measure, in the dark, and it now seems pretty clear that mistakes have been made in attempting to confine or resist the streams rather than in making way for their overflow. The expensive nature of the works required to accomplish this object, and the doubts as to the possible volume of the water, led to the adoption of a course which appeared at the time most economical; but the experience of past years will, in this, as on many other points, be carefully attended to, with better hopes that similar errors will be avoided in the future.

Journey between England and India.

8. The journey to Bombay from this country by the Italian route is now reduced to 21 days. But the more facilities of locomotion are increased, the more would the desire for improved communication appear to be stimulated. The successful completion of the Mont Cenis tunnel, and the opening of the Suez Canal, have been followed by more serious public inquiry than has hitherto been made into the capabilities of the Euphrates route, a Parliamentary committee

having been engaged during the last and present sessions in investigating various projects for the purpose of establishing railway communication through Turkey and Arabia; and thought and ingenuity have been further stimulated to suggest a project for a direct line of railway communication to India by way of Trieste, Turkey, Persia, and Beloochistan, to Kurrachee. In the meantime, while these ambitious projects are receiving attention, the simple convenience of through booking arrangements has been offered to travellers between this country and the chief towns on the railways in India, tickets being issued by the Peninsula and Oriental Steam Navigation Company in London.

PROCEEDINGS IN THIS COUNTRY.

Shipments.

9. The duties of the railway boards in this country are gradually becoming more confined to the review of the working of their respective undertakings, and to a general supervision of their officers in India, as well as to the supply of the necessary materials for maintaining the lines and keeping them properly equipped. During the past year 161,129 tons, of the value of 646,066*l.*, were shipped by the companies, in comparison with 263,449 tons of the value of 1,681,512*l.* the previous year. Six ships have been lost with cargoes valued at 32,882*l.*; five on their way to Bombay with goods belonging to the Great Indian Peninsula and Bombay, Baroda, and Central India Railway Companies, to the amount of 18,875*l.*; only 493*l.*, however, with materials of the latter. The remaining ship was freighted with goods for the Great Southern of India Railway, valued at 15,000*l.* All were fully insured. In addition to the above, 6,920 tons of goods, of the value of 61,699*l.*, were shipped by Government for State railways. The opening of the Suez Canal has led to the more general employment of steamers, the saving in time frequently being more valuable than the extra freight paid for using this route.

SHIPPING OPERATIONS during 1871 on Account of the Guaranteed Railways.

Railway.	Number of Ships employed in 1871.	Number of Tons of Goods shipped in 1871.	Value of Goods shipped in 1871.	Amount paid for Freight and Insurance in 1871.	Average Rate of Freight and Insurance per Ton.
		Tons.	£	£	Freight. £ s. d. / Insurance. s.
East Indian - - -	27	10,690	87,611	10,559	0 15 0 25
Great Indian Peninsula - -	94	19,198 84,082 fuel	154,084 51,704	35,703 110,168	1 17 2 1 6 2
Madras - - - -	42	14,842	38,556	15,912	1 1 5
Bombay, Baroda and Central India	35	*10,440	66,035	15,042	1 8 10
Scinde, Punjab and Delhi -	15	2,180	55,744	5,849	2 13 7
Great Southern of India - -	4	2,672	5,300	3,484	1 6 1
Eastern Bengal - - -	7	1,212	5,630	1,652	1 7 3
Oude and Rohilkund - -	63	15,813	181,402	21,638	1 4 7
State Railways - - -	20	6,920	61,699	3,630	0 10 6 without insurance.
Total - -	307	168,049	707,765	223,617	

10. The following table gives the shipments in each year from the commencement of operations, and shows that 4,361,297 tons of goods, of the value of 28,880,893*l.*,

* Exclusive of fuel.

have been sent to India, that 6,906 ships have been employed in this operation, and that 67 of them have been wrecked or lost.

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.	Number of Ships lost.	Number of Tons of Goods shipped.	Value of Goods shipped.
				£
Up to end of 1860	2,605	39	2,094,686	10,431,976
In 1861	407	—	182,621	1,669,443
„ 1862	280	1	138,013	1,487,582
„ 1863	279	2	166,840	1,285,464
„ 1864	233	—	102,318	1,018,164
„ 1865	442	2	199,157	1,729,543
„ 1866	581	7	312,227	2,527,757
„ 1867	512	5	333,329	3,052,652
„ 1868	364	3	188,858	1,849,554
„ 1869	455	1	211,750	1,432,784
„ 1870	461	1	263,449	1,688,209
„ 1871	307	6	168,049	707,765
Total	6,926	67	4,361,297	28,880,893

Proprietors.

11. There is a slight increase in the number of proprietors of Indian railway stock during the year. The capital has increased from 91,102,810*l.*, on the 31st March 1871, to 93,564,367*l.* on the same day in 1872; while the number of shareholders last year increased from 51,887 to 55,924, and debenture and debenture stock holders declined from 6,759 to 3,658. The number of natives who hold any share in railway property is still perfectly insignificant.

Railway.	Number of Shareholders on 31st December 1871.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1871.
	Registered in England.			In India.					
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.	Bond.	Stock.	
East Indian	6,730	8,196	14,926	179	156	335	1,158	793	17,212
Great Indian Peninsula	5,410	7,404	12,814	82	98	180	527	666	15,845
Madras	2,949	4,100	7,049	—	—	—	213	—	7,262
Bombay, Baroda and Central India	2,116	3,827	5,943	11	69	80	528	—	6,551
Scinde, Punjab and Delhi	3,336	4,983	8,319	75	13	88	—	—	8,407
Great Southern of India	660	886	1,546	2	6	8	43	—	1,589
Eastern Bengal	672	979	1,651	26	20	46	177	96	1,970
Oude and Rohilkund	902	1,232	2,134	58	33	91	30	—	2,255
Carnatic	232	491	723	—	—	—	—	—	723
Total	23,007	32,098	55,096	433	395	828	2,676	1,555	61,314

Proposed amalgamation of railways in the Madras Presidency.

12. A suggestion having been made to amalgamate the Great Southern of India Railway with the Carnatic, it was further proposed to amalgamate with them the Madras Railway, so that all the lines in that Presidency might form one system, under a single management. The two smaller companies have expressed their readiness to accede to the proposition, and to join upon fair and equitable terms; but the directors of the Madras Company were not favourable to the arrangement, and the question, having been referred to the shareholders, was decided in the negative. The amalgamation, therefore, if effected, will be limited to the other companies, who would thereby gain strength by union, and secure economy and simplicity in the management.

THE following STATEMENT gives the Number of Persons employed in the various Departments of the Railways in the Bengal, Madras, and Bombay Presidencies, on the 30th September 1871.

Railways.	Agent's Department, including Medical and Barrack Departments.			Account Department.			Audit Department.			Printing and Stationery Department.			Stores Department.			Traffic Department, including Steam Ferry.			Engineer's Department.			Carriage and Waggon Departments.			Locomotive Department.			Telegraph Department.			Grand Total.			No. of Miles open.	No. of Stations.
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.		
East Indian - -	31	158	189	—	—	—	44*a*	632*a*	676*a*	8	229	237	30	692	722	446	4,105	4,551	119	6,972	7,091	128	3,242	3,370	616	2,127	2,743	53	1,100	1,153	1,480	19,257	20,737	1,230	149
Eastern Bengal - -	8	51	59	3	82	85	1	22	23	—	24	24	2	4	6	96	1,279	1,375	42	2,317	2,359	7	127	134	61	602	663	6	137	143	226	4,645	4,871	156½	33
Calcutta & South-Eastern (State).	2	—	2	—	3	3	—	2	2	—	1	1	—	1	1	4	47	51	2	81	83	—	3	3	4	20	24	—	6	6	12	164	176	28	8
Oude and Rohilkund -	19	36	55	3	47	50	8	15	23	8	53	61	—	—	—	5	110	115	3	80	83	—	—	—	26	342	368	2	12	14	74	695	769	42	5
Punjab and Delhi -	18	29	47	—	—	—	476	435	905	1	7	8	9	13	22	129	235	364*c*	43	32	75	—	—	—	145	706	851	—	—	—	392	1,065	1,457	505	48*
Sindh *d* - - - -	6	34	40	—	—	—	—	—	—	—	—	—	2	20	22	26	124	150	10	441*c*	451	—	—	—	51	296	347	*f*	*f*	*f*	95	915	1,010	106	8
Great Indian Peninsula *d*	56	260	316	—	—	—	—	—	—	—	—	—	22	243	265	499	4,001	4,500	180	11,744	11,924	—	—	—	596	5,976	6,572	*f*	*f*	*f*	1,353	22,224	23,577	1,274	161
Bombay, Baroda, and Central India *d*	10	77	87	—	—	—	—	—	—	—	—	—	14	139	153	55	1,321	1,376	35	2,650	2,685	—	—	—	130	1,080	1,210	*f*	*f*	*f*	244	5,267	5,511	326	60
Madras *d* - -	31	228	259	—	—	—	—	—	—	—	—	—	10	65	75	199	1,596	1,795	98	2,900	2,998	—	—	—	383	2,051	2,434	47	127	174	768	6,967	7,735	832	30
Great Southern of India -	20	107	127	—	—	—	—	—	—	—	—	—	—	—	—	19	245	264	25	659	684	—	—	—	65	374	439	—	—	—	129	1,385	1,514	168	22
Carnatic - - -	3	10	13	—	—	—	—	—	—	—	—	—	—	3	3	—	16	16	—	29	29	—	—	—	3	8	11	—	—	—	6	66	72	19	4
Indus Flotilla *d* - -	10	70	80	—	—	—	—	—	—	—	—	—	—	—	—	43	575	618	20	370	390	—	—	—	—	—	—	—	—	—	73	1,015	1,088	—	—
Total - -	214	1,060	1,274	6	132	138	100	714	814	17	314	331	89	1,180	1,269	1,021	13,654	15,175	577	28,275	28,852	135	3,372	3,507	2,080	13,682	15,662	113	1,382	1,495	4,852	63,665	68,517	4,796½	543

a Audit Account and Cash. *b* Audit and Account. *c* Includes Telegraph. *d* The Account, Audit and Printing, and Stationery Departments are included under Agent's Department.
e Exclusive of 60 men employed by Contractors. *f* Included in Traffic Department. * Including one temporary station.
N.B.—Where the employés of the Carriage and Waggon Department are not shown separately they are understood to be included with those of the Locomotive Department.
The Departments of the Indus Flotilla do not correspond with those of the Railways, and are therefore shown separately.

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PERSONS EMPLOYED ON THE RAILWAYS.

13. The foregoing statement shows that, on the 30th September last, the number of persons employed in the management and maintenance of the railways was 68,517, of whom 4,852 were Europeans or East Indians and 63,665 natives. Compared with the previous year, when there were 197 miles less open and 69 fewer stations, the aggregate number shows a diminution of 700, the Europeans having been reduced by 196 and the natives by 504. The greatest reduction has been on the Scinde, Punjab and Delhi Railway, the numbers now employed being 1,457 instead of 6,228. The East Indian has also reduced its staff from 22,265 to 20,737. On the other hand, the Great Indian Peninsula has increased its numbers from 21,205 to 23,577, the mileage having at the same time increased from 1,184 to 1,274, and the number of stations from 107 to 131. On the Bombay, Baroda, and Central India, where the mileage has likewise increased from 312 to 326, and the stations from 51 to 60, the staff has grown from 4,734 to 5,511.

ACCIDENTS.

14. The statements which follow are compiled in India for the Government, and exhibit the number, nature, and causes of the accidents which have occurred on the railways there during the year 1871.

15. Compared with previous years the results are favourable. While in the year 1869 the number of passengers killed from causes beyond their control was 31, and in 1870 was 4, there was only one last year, and death in this case was caused, not by any accident to a train, but by a fall on the platform through insufficient lighting. Eight passengers were, however, injured through slight collisions and accidents to trains. In the two previous years the numbers thus injured were 63 and 92. The per-centage killed last year was 0·05 per million, and injured 0·42 per million. The mean length open was 5,020 miles, the number of passengers carried was 18,976,944, and the train mileage with goods and passenger trains was 13,844,840.

16. Of the 74,650 servants employed 246 received injuries, 84 of which were fatal, three from causes beyond their control, and the rest from their own misconduct or incaution.

17. Of the 548 accidents of all kinds, including many very trifling in themselves and of little consequence, 314 arose from cattle being run over on lines duly fenced, 76 from fire, 70 from the train or vehicles getting off the proper line, 35 from collisions, and 53 from other causes. The accidents from fires are most frequent on the Punjab and Delhi line, and would seem to prove that the arrangements for arresting sparks from the engines must require attention. The animals run over consist of buffalos, goats, deer, leopards, cows, and bullocks. A camel, a crocodile, and a hyena were last year also victims.

18. The most serious accident was on the Beas River, on the Delhi line, but it was happily attended by no loss of life. A portion of the bridge had been washed away, and by some strange and unaccountable blunder a train was allowed to be driven into the gap, and had a very narrow escape of being engulfed in the river. Engine, tender, and break-van did indeed fall into the chasm, but the passenger carriage remained suspended in a most extraordinary way until the passengers were released from their perilous position.

19. The usual supplementary return, peculiar I think to Indian railways, "of deaths of passengers in carriages and at stations," from causes unconnected with the working of the lines, shows that in the year 1871, 110 persons died while travelling. Ninety were males and twenty were females, some were infants and some were aged. One man and one woman are put down as being 90 years old, the former dying from heat apoplexy, the latter from natural causes. With two or three exceptions all were natives, and the principal causes of death were cholera, fever, dysentery, and diarrhœa. Each case is, of course, fully investigated when it occurs, and it is supposed that in many instances the sufferers start on their journey in a condition unfit to bear the fatigue and heat, hoping to reach friends or some sacred resting-place before they died.

TABLE No. I.

ABSTRACT of the NUMBER and NATURE of the ACCIDENTS and of the INJURIES to LIFE and LIMB which have occurred on all Railways open for Traffic in India during the years 1870 and 1871.

Presidency.	Mean Mileage open.	Railways.		Classification of Accidents to Trains, &c. — Main Heads. I. Collisions.	II. Getting off proper Line.	III. Fire.	IV. Running over Cattle.	V. Other Causes.	Total.	Passengers. From Causes beyond their own Control. Killed.	Injured.	Passengers. From their own Misconduct or want of Caution. Killed.	Injured.	Servants of Companies or of Contractors. From Causes beyond their own Control. Killed.	Injured.	Servants of Companies or of Contractors. From their own Misconduct or want of Caution. Killed.	Injured.	Others. Whilst crossing at Level Crossings. Killed.	Injured.	Others. Whilst trespassing (including Suicides). Killed.	Injured.	Others. Miscellaneous. Killed.	Injured.	Total Persons of all Classes. Killed.	Injured.	Killed and Injured.
Bengal	1,503	East Indian	1871	13	10	5	117	6	151	—	8	5	14	1	10	36	50	3	—	46	5	4	—	95	87	182
	1,354		1870	6	10	1	128	2	147	1	38	9	14	5	8	25	46	1	1	41	8	7	1	89	116	205
	156½	Eastern Bengal	1871	—	2	—	—	—	2	—	—	—	1	—	—	2	2	—	—	4	—	—	—	6	3	9
	112		1870	1	1	3	3	—	8	—	—	—	2	1	2	2	—	—	—	2	—	—	—	5	4	9
	28	Calcutta and South-eastern.	1871	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	28		1870	—	1	—	3	—	4	—	—	—	—	—	—	1	1	—	—	—	—	—	—	1	1	2
	27	Nulhattee	1871	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	1
	28		1870	—	—	—	1	8	9	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
	42	Oude and Rohilkund	1871	—	1	2	—	1	4	—	—	—	—	—	—	—	1	—	—	1	—	—	—	1	1	2
	42		1870	2	3	1	4	4	14	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	2	2
	554	Punjab and Delhi	1871	2	18	54	4	9	87	1	—	2	1	1	1	7	8	—	—	4	—	—	—	15	10	25
	541		1870	3	34	38	4	18	97	—	—	—	3	—	1	8	4	—	—	—	—	—	—	8	8	16
	106	Scinde	1871	—	1	5	23	22	51	—	—	—	1	—	2	2	—	—	—	—	—	—	—	2	3	5
	106		1870	—	4	1	18	5	28	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	1
Madras	825	Madras	1871	3	1	1	62	1	68	—	—	—	2	—	—	8	11	4	—	3	1	—	—	15	14	29
	711		1870	3	4	6	53	8	74	3	—	—	—	6	2	10	7	—	2	2	—	—	—	21	11	32
	168	Great Southern of India.	1871	—	1	—	—	—	1	—	—	—	—	—	—	1	1	—	—	—	—	—	—	1	1	2
	168		1870	—	—	—	—	1	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1
	19	Carnatic	1871	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19		1870	—	—	—	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bombay	1,269	Great Indian Peninsula	1871	15	31	9	79	12	146	—	—	—	2	—	2	12	57	2	—	10	4	1	—	32	65	97
	1,160		1870	46	182	2	52	31	313	—	1	—	2	1	6	44	46	1	1	14	11	1	—	61	67	128
	323	Bombay, Baroda, and Central India.	1870	1	5	—	28	2	36	—	—	—	—	1	6	6	11	—	—	2	3	—	—	9	20	29
	312		1871	8	19	1	46	1	75	—	3	—	—	—	1	9	8	—	—	8	2	—	—	17	14	31
India	5,020½	- - -	1870	38	70	76	314	53	548	1	8	8	21	3	21	81	144	9	—	70	13	5	—	177	204	381
	4,581		1871	69	258	53	314	78	772	4	42	9	21	13	20	100	114	2	4	68	22	8	1	204	224	428

TABLE No. II.—NUMERICAL ABSTRACT of ACCIDENTS of all Classes on all Railways open for Traffic in India during the Year 1871.

	BENGAL, NORTH-WESTERN PROVINCES, OUDE, AND PUNJAB.														MADRAS.						BOMBAY.				Total.		
	East Indian.		Eastern Bengal.		Calcutta and South-Eastern.		Nulhattee.		Oude and Rohilkund.		Punjab and Delhi.		Scinde.		Madras.		Great Southern of India.		Carnatic.		Great Indian Peninsula.		Bombay, Baroda, & Central India.				
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed & Injured.
PASSENGERS.																											
From causes beyond their own control, *viz.*:—																											
From accidents to trains	—	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	8
From other causes	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Total	—	8	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	8	9
Per million of passengers	—	1·47	—	—	—	—	—	—	—	—	0·53	—	—	—	—	—	—	—	—	—	—	—	—	—	0·05	0·42	0·47
From their own misconduct or incaution	5	14	—	1	—	—	1	—	—	—	2	1	—	1	—	2	—	—	—	—	—	2	—	—	8	21	29
Per million of passengers	0·92	2·57	—	0·64	—	—	13·84	—	—	—	1·05	0·53	—	12·12	—	0·88	—	—	—	—	—	0·58	—	—	0·42	1·11	1·53
Total from all causes	5	22	—	1	—	—	1	—	—	—	3	1	—	1	—	2	—	—	—	—	—	2	—	—	9	29	38
SERVANTS OF COMPANIES OR OF CONTRACTORS.																											
From causes beyond their own control	1	10	—	—	—	—	—	—	—	—	1	1	—	2	—	—	—	—	—	—	—	2	1	6	3	21	24
From their own misconduct or incaution	36	50	2	2	—	—	—	—	—	1	7	8	2	—	8	11	1	1	—	—	19	57	6	11	81	141	222
Total from all causes	37	60	2	2	—	—	—	—	—	1	8	9	2	2	8	11	1	1	—	—	19	59	7	17	84	162	246
OTHER PERSONS.																											
Crossing at level crossings	3	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	—	—	—	—	2	—	—	—	9	—	9
Trespassers, including suicide	46	5	4	—	—	—	—	—	1	—	4	—	—	—	3	1	—	—	—	—	10	4	2	3	70	13	83
Miscellaneous	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	5	—	5
Total from all causes	53	5	4	—	—	—	—	—	1	—	4	—	—	—	7	1	—	—	—	—	13	4	2	3	84	13	97
Grand total of all classes from all causes	95	87	6	3	—	—	1	—	1	1	15	10	2	3	15	14	1	1	—	—	32	65	9	20	177	204	381
Mean length of railway open during the year (miles)	1,503		156½		28		27		42		554		106		825		168		19		1,269		323		5,020½		
Number of passengers carried	5,443,108		1,550,243		345,893		72,227		327,984		1,892,561		82,478		2,284,606		813,483		91,067		3,464,156		2,609,138		18,976,944		
Train mileage (goods and passengers)	5,209,086		432,707		39,848		21,056		43,143		908,447		156,756		1,692,772		248,345		28,177		4,250,351		814,152		13,844,840		

TABLE No. III.

Showing the TOTAL NUMBER of ACCIDENTS to PERSONS of all kinds, and to TRAINS, &c., on all RAILWAYS open for TRAFFIC in each Presidency of India, during the Years 1870 and 1871.

Presidencies.		Mean Length of Railway open.	Total Number of Train Miles.	Train Miles per Mile open.	Total Number of Accidents to Trains, &c., of all kinds.	Total Number of Passengers carried.	Average Number of Passengers per Mile opened.	Passengers.		Servants.				Trespassers, &c.		Total.		
								Killed.	Injured.	Beyond their own Control.		Within their own Control.		Killed.	Injured.	Killed.	Injured.	Killed and Injured.
										Killed.	Injured.	Killed.	Injured.					
Bengal	1871	2,416½	6,811,043	2,819	206	9,714,494	4,020	9	25	2	13	47	61	62	5	120	104	224
	1870	2,105	7,933,515	3,769	279	9,324,389	4,430	10	57	6	11	36	52	52	11	104	131	235
Madras	1871	1,012	1,969,294	1,946	70	3,189,156	3,151	—	2	—	—	9	12	7	1	16	15	31
	1870	898	2,734,230	3,045	77	2,939,042	3,273	3	—	6	2	11	7	2	2	22	11	33
Bombay	1871	1,592	5,064,503	3,181	182	6,073,294	3,815	—	2	1	8	25	68	15	7	41	85	126
	1870	1,578	4,834,594	3,064	416	5,882,940	3,728	—	6	1	7	53	55	24	14	78	82	160
India	1871	5,020½	13,844,840	2,758	548	18,976,944	3,780	9	29	3	21	81	141	84	13	177	204	381
	1870	4,581	15,502,339	3,384	772	18,146,371	3,961	13	63	13	20	100	114	78	27	204	224	428

CAPITAL EXPENDITURE AND FINANCIAL POSITION OF THE RAILWAY COMPANIES.

20. A sum of 90,009,622*l.* guaranteed capital had been expended by the Railway Companies up to the close of the official year. It is estimated that about 8,000,000*l.* more will be required to complete the undertakings, and of this sum upwards of 3,500,000*l.* has been raised. During last year 2,325,293*l.* was expended. Last year also 3,723,156*l.* was raised, 1,539,743*l.* by means of share capital, 41,155*l.* by debentures, 2,096,124*l.* by debenture stock, and a sum of 46,134*l.* has been added to the amount of capital not bearing interest standing to the credit of the Companies.

21. The total amount which has been raised by the Companies had on the 31st March last reached 93,564,367*l.* Of this, 80,972,386*l.* consists of share capital, 1,954,100*l.* of debentures convertible into shares, 5,473,100*l.* of inconvertible debentures, which will be paid off in cash at fixed periods, 4,671,808*l.* of irredeemable debenture stock, and 492,973*l.* of capital not bearing interest.

22. The past financial year closed with a balance of 3,554,745*l.*, which it is estimated will cover the expenditure of the present year.

23. Statements Nos. 2 and 3, which follow, give the particulars of the capital expenditure since the commencement of operations and during last year.

CAPITAL EXPENDITURE ON STATE RAILWAYS.

24. More accurate estimates than had before been attempted have now been made of the lines which have been sanctioned as State undertakings. In two cases contracts have been entered into for the execution of the works, so that a fair judgment may be formed of their ultimate cost, including permanent way and rolling stock. It will be seen by the subjoined list that, according to existing estimates, an expenditure of about 11,000,000*l.* will be incurred upon the lines now decided upon. Two of these, viz., the Calcutta and South-eastern and the Nulhatee, were purchased from the Companies by which they were constructed; and the two small branches from the Great Indian Peninsula Railway to Oomrawuttee and Khamgaon have been completed and opened. The rest are in course of execution or are being surveyed.

Name.	Length.	Estimated Cost.
BRITISH.		£
Rajpootana, from Agra to Ajmère	236	2,000,000
Rajpootana, „ Delhi to join the above	125	
Rajpootana, branch to Salt Works	8	
Punjab, Northern	270	2,700,000
Indus Valley	480	3,000,000
Patree Branch to Bombay and Baroda Railway	22	150,000
Carwar to Hooblee	144	900,000
Wurda Valley	15	80,000
Calcutta and South-eastern	28	556,000
Nulhatee	27½	30,000
Indore to Khundwa	86	900,000
BERAR.		
Oomrawuttee	5½	44,000
Khamgaon	7½	47,000
NIZAM'S GOVERNMENT.		
Nizam's, Goolburga to Hyderabad	116	1,000,000
		£11,407,000

25. Statement No. 1 shows the amounts which had, up to the 31st December last, been expended in England and India upon each of these lines. The whole aggregates 1,870,442*l.*, of which 379,158*l.* was disbursed between 1st April and 31st December last. Between that date and the end of the official year a further sum of 83,446*l.* has been expended in this country, including 30,000*l.* for the purchase of the Nulhatee line from the Oude and Rohilkund Company. No account has yet been received from India of the expenditure in that country during the last three months of the official year 1871–72. It will be observed that the Indore and Khundwa Railway, now called the Holkar State Railway, leading from the Great Indian Peninsula line to Indore, the capital of the territory of Holkar, and that the Mysore, Berar, and Nizam's lines, are included in the statement, and that 190,635*l.*, for which those States are responsible, has been expended on those undertakings.

Statement No. 1.

Statement of Expenditure incurred in England and India on Indian State Railways to 31st December 1871.

State Railway.	Preliminary Expenses.	Land.	Construction of Line.	Ballast and Permanent Way.	Stations and Buildings.	Electric Telegraph.	Plant.	Rolling Stock.	Maintenance.	Establishment.	Contingencies.	Suspense Accounts.	Total.
British.	£	£	£	£	£	£	£	£	£	£	£	£	£
Calcutta and South-eastern	*638,516	153	5,016	—	—	—	—	—	—	—	—	—	643,685
Darjeeling	279	—	—	—	—	—	431	—	—	1,942	117	352	3,121
Rajpootana (Delhi District)	8,392	12,740	16,532	7,269	3,079	—	856	—	—	20,523	1,119	3,724	74,234
Do. (Agra District)	16,588	—	—	—	1,665	—	1,005	—	—	28,794	1,579	398	50,024
Moradabad, Deobund, and Roorkee	52	—	—	—	—	—	38	—	—	2,616	150	—	2,851
Indus Valley	53,907	—	961	—	1,509	—	3,315	—	—	35,189	2,361	1,840	99,082
Punjab, Northern	25,062	6,430	108,191	20,421	19,389	—	46,528	—	—	127,212	4,734	302,901	660,868
Hooblee and Carwar (Survey)	7,968	—	—	—	—	—	—	—	—	22,001	312	—	30,281
Neemach	19,030	—	—	—	—	—	193	—	—	8,777	375	116	28,491
Indore and Khundwa	2,920	2	271	2	3,461	—	785	—	—	20,436	1,049	184	29,110
Mysore.													
Mysore	544	—	—	—	—	—	831	—	—	9,016	247	—	10,638
Nizam.													
Nizam's	1,174	—	38,975	1,383	3,274	—	4,422	—	—	30,685	1,347	7,811	89,071
Berar.													
Oomrawuttee	112	245	8,151	27,599	3,656	110	295	6	—	3,806	123	—	44,103
Khamgaon	37	39	10,921	28,695	3,561	125	341	32	—	2,838	175	59	46,823
						* Purchase of Works.					Total		1,812,382

N.B.—In addition to the sums included above, 58,060*l.* had been expended in England to 31st December 1871, for Stores, &c., for Indian State Railways, but for want of the necessary information, this expenditure cannot at present be charged to any specific lines. Since that date 30,000*l.* has likewise been expended in the purchase of the Nulhatee Railway.

8th June 1872.

STATEMENT No. 2.

Showing the Amount of Capital estimated to be required for each Undertaking as now sanctioned, the Amount authorised to be raised, the Amount raised, and the Amount withdrawn, to 31st March 1872.

Railway.	Estimated Cost of Lines.	Amount authorised to be raised on 31st March 1872.						Amount raised in England to 31st March 1872.						Amount raised in India to Date of last Advices.		Total Amount raised to 31st March 1872.	Total Amount withdrawn to 31st March 1872 (partly estimated).
		Share Capital.	Debentures.		Debenture Stock.	Capital not bearing Interest.	Total.	Share Capital.	Debentures.		Debenture Stock.		Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.		
			Convertible into Shares.	Inconvertible.					Convertible into Shares.	Inconvertible.	Stock represented.	Cash received.					
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
East Indian—Main Line	27,750,000	22,587,400	412,600	2,950,000	1,500,000	155,897	27,605,897	22,206,472	412,600	2,954,000*	*1,500,000*	1,500,000	154,559	326,295	1,338	27,555,264	27,565,692
„ Jubbulpore Line	3,250,000	2,643,100	556,900	—	—	30,034	3,230,034	2,632,450	556,900	—	—	—	30,034	7,665	—	3,227,049	3,158,576
Great Indian Peninsula	25,000,000	20,000,000	—	1,782,050	3,065,300	214,477	25,061,827	18,963,471	—	1,782,050	*2,701,450*	2,475,559	213,735	404,731	742	23,840,288	23,249,349
Madras	11,000,000	10,102,700	199,700	500,000	—	—	10,802,400	9,445,921	199,700	500,000	—	—	—	—	—	10,145,621	10,041,792
Bombay, Baroda, and Central India	8,000,000	7,430,000	648,800	—	—	18,000	8,096,800	7,092,122	648,800	—	—	—	18,000	21,672	—	7,780,594	7,665,577
Scinde, Punjab, and Delhi	11,000,000	11,418,900	—	—	—	—	11,418,900	10,989,782	—	—	—	—	—	86,004	—	11,075,786	10,220,494
Great Southern of India	3,000,000	2,333,600	87,800	—	425,000	36,000	2,882,400	2,311,279	87,800	—	*425,000*	425,000	36,000	1,221	—	2,861,300	1,721,881
Eastern Bengal	3,000,000	2,255,520	—	237,050	393,330	1,965	2,887,865	2,238,932	—	237,050	*298,409*	271,249	1,965	16,486	—	2,765,682	2,893,013
Oude and Rohilkund	6,000,000	3,883,700	116,300	—	—	—	4,000,000	3,057,383	48,300	—	—	—	—	402,602	14,400	3,522,685	3,400,063
Carnatic	800,000	800,000	—	—	—	22,200	822,200	767,898	—	—	—	—	22,200	—	—	790,098	93,185
Total	98,800,000	83,454,920	2,022,100	5,469,100	5,383,630	478,573	96,808,323	79,705,710	1,954,100	5,473,100	*4,924,559*	4,671,808	476,493	1,266,676	16,480	93,564,367	90,009,622

* Including £4,000 debentures, which fell due on 15th December 1870, payment of which had not been claimed on the 31st March 1872.

India Office, 8th April 1872.

T. W. KEITH,
Accountant.

Statement No. 3.

Showing the Amount received from and withdrawn by each Company during the Year ended 31st March 1872.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1871.	Sums advanced to the Companies on the 31st March 1871.	Amount received					Amount withdrawn					Total received during the Year ended 31st March 1872.	Total withdrawn during the Year ended 31st March 1872.
			In England, between 1st April 1871 and 31st March 1872.				In India, between 1st April 1871 and the Date to which Accounts have been received.	In England, between 1st April 1871 and 31st March 1872.		In India.				
			Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	Share Capital.	On account of Stores, Establishment Charges, &c.	For Discharge of Debentures.	Date to which Accounts have been received.	Amount.	Estimated Withdrawals between Dates specified and 31st March 1872.		
	£	£	£	£	£	£	£	£	£		£	£	£	£
East Indian: Main Line	—	*635,676	268,915	—	755,900	28,417	—	111,537	283,370	31st December 1871	13,077	20,000	1,053,232	427,984
„ Jubbulpore Line	*69,404	—	30	—	—	10,016	—	†212	—	„	6,189	5,000	10,046	10,977
Great Indian Peninsula	898,156	—	439,615	—	736,304	7,701	—	318,797	767,995	„	334,045	70,000	1,183,620	1,490,837
Madras	156,053	—	218,910	41,150	—	—	—	56,223	25,900	„	160,151	70,000	260,060	312,284
Bombay, Baroda and Central India	266,454	—	208,460	5	—	—	—	98,582	170,200	„	46,120	45,000	208,465	359,902
Scinde, Punjab and Delhi	785,173	—	165,815	—	—	—	23,126	63,887	5,800	30th November 1871	19,135	30,000	188,941	118,822
Great Southern of India	783,331	—	44,900	—	418,000	—	—	4,832	75,000	31st December 1871	19,980	7,000	462,900	106,812
Eastern Bengal	3,797	—	16,871	—	185,920	—	126	14,176	271,750	„	36,119	12,000	202,917	334,045
Oude and Rohilkund	849,150	—	17,604	—	—	—	5,288	214,975	—	„	414,445	120,000	22,892	749,420
Carnatic	581,055	—	130,083	—	—	—	—	4,389	—	„	7,036	3,000	130,083	14,225
Total	4,392,573	635,676	1,511,203	41,155	2,096,124	46,134	28,540	886,996	1,600,015	—	1,056,297	382,000	3,723,156	3,925,308

* These Balances are subject to adjustment in respect of Rolling Stock supplied by the Main line for the Jubbulpore line.
† These figures represent the amount of receipts on account of Transfer Fees, &c., taken in reduction of the total withdrawals. No withdrawals made in England during the year were charged in this country to the Jubbulpore line.

India Office, 8th April 1872.

T. W. Keith,
Accountant.

STATE of DEBENTURE LOANS on the 31st March 1872.

Railway.	Amount. Convertible.	Inconvertible.	Total.	Rate of Interest	Date at which Loan expires.
	£	£			
East Indian	—	4,000		5	15th Dec. 1870. (remaining unclaimed on 31st March 1872.)
"	50,000	—		4½	10th July 1872.
"	—	1,000,000		4½	22d August 1872.
"	—	440,000		4½	19th March 1873.
"	—	10,000		4½	19th March 1875.
"	556,900	—		5	23d March 1875.
"	—	196,150		4½	10th August 1875.
"	—	1,024,000		4½	" "
"	362,600	—		5	9th August 1876.
"	—	96,400		4½	10th August 1877.
"	—	183,450		4½	" "
	969,500	2,954,000	3,923,500		
Great Indian Peninsula	—	435,000		5	30th June 1872.
" "	—	42,800		4½	" "
" "	—	268,800		5	30th June 1873.
" "	—	1,035,450		5	31st Dec. 1876.
	—	1,782,050	1,782,050		
Madras	—	500,000		4½	1st January 1876.
"	199,700	—		5	1st January 1877.
	199,700	500,000	699,700		
Bombay, Baroda, and Central India	106,800	—		5	1st July 1872.
" " "	301,200	—		5	1st January 1875.
" " "	240,800	—		5	1st July 1876.
	648,800	—	648,800		
Great Southern of India	24,600	—		5	1st July 1872.
" "	10,000	—		5	1st January 1874.
" "	53,200	—		5	1st July 1874.
	87,800	—	87,800		
Eastern Bengal	—	181,550		5	1st November 1874.
"	—	55,500		5	1st November 1876.
	—	237,050	237,050		
Oude and Rohilkund	48,100	—		5	15th April 1875.
" "	100	—		5	28th July 1876.
" "	100	—		5	18th February 1879.
	48,300	—	48,300		
			7,427,200		

India Office,
8th April 1872.

T. W. KEITH,
Accountant.

26. The debenture loans which have been paid off during the year amounted to 2,815,285*l.*, and have been replaced by share capital or debenture stock. It will be observed by the last statement that the amount now out in this shape is 7,427,200*l.*, of which 2,099,200*l.* falls due in the current official year. Of this, 181,400*l.*, being convertible into shares at the option of the holder, will probably be replaced by share capital; of the rest, 1,000,000*l.*, will be renewed by the East Indian Railway Company at a lower rate of interest, and the remainder will be paid off.

27. The effects of the 1*s.* 10*d.* rate of exchange fixed in the contracts for the conversion into sterling of the capital expenditure in India and of the railway earnings has frequently been alluded to in former reports, and estimates have been formed of the amount thus contributed by Government to the construction of the lines. It is only recently that accurate data on the subject have been obtained. The subjoined statement has now been compiled by the Accountant of this office, and in it the actual losses and gains by Government in each year will be seen. Assuming that 2*s.* the rupee has been the average prevailing rate for bills of exchange drawn upon India, the net loss incurred by Government hitherto would be about 2,942,400*l.*, the gross loss having been 3,180,963*l.*, and the total gain 238,557*l.* The time has now arrived when the Government will recover much of this loss from the net revenue receipts, all of which are credited to the Government at 1*s.* 10*d.* the rupee. This year if the prevailing rate of exchange had been 2*s.*, the gain would have been about 250,000*l.* by this means. Effects of rate of exchange upon expenditure.

STATEMENT showing the LOSS or GAIN to INDIA in each year, by adopting in the Transactions with certain GUARANTEED INDIAN RAILWAY COMPANIES the Exchange of 1*s.* 10*d.* the Rupee, as compared with the rate of 2*s.* the Rupee, and as compared with the Average Rate obtained in each year for Bills of Exchange drawn on India; also the Gain in each Year by adopting in the Transactions with the Oude and Rohilkund Railway Company and the Indian Tramway or Carnatic Railway Company, the Exchange of 2*s.* the Rupee, as compared with the Average Rate obtained in each Year for Bills of Exchange drawn on India.

YEAR.	Loss by Exchange in adopting the Rate of 1*s.* 10*d.* the Rupee, as compared with that of 2*s.*	Gain by Exchange in adopting the Rate of 1*s.* 10*d.* the Rupee, as compared with that of 2*s.*	Loss by Exchange in adopting the Rate of 1*s.* 10*d.* the Rupee, as compared with the undermentioned Rates obtained for Bills on India.		Gain by Exchange in adopting the Rate of 1*s.* 10*d.* the Rupee, as compared with the undermentioned Rates obtained for Bills on India.		Gain by Exchange in adopting with the Oude and Rohilkund Railway Company, and the Indian Tramway or Carnatic Railway Company, the Rate of 2*s.* the Rupee, as compared with the undermentioned Rate obtained for Bills on India.	
			Average Rate for Bills on India.		Average Rate for Bills on India.		Average Rate for Bills on India.	
	£	£	*s.* *d.*	£	*s.* *d.*	£	*s.* *d.*	£
1849-50	—	780	—	—	1 10¼	195	—	—
1850-51	—	3,623	—	—	2 0¼	4,076	—	—
1851-52	13,091	—	2 0½	13,909	—	—	—	—
1852-53	21,819	—	1 11⅞	20,456	—	—	—	—
1853-54	37,162	—	2 0⅛	39,485	—	—	—	—
1854-55	59,845	—	1 11⅛	33,663	—	—	—	—
1855-56	111,750	—	2 0⅛	118,734	—	—	—	—
1856-57	147,361	—	2 1⅛	230,251	—	—	—	—
1857-58	177,262	—	2 0⅛	232,656	—	—	—	—
1858-59	303,874	—	*	—	—	—	—	—
1859-60	429,233	—	*	—	—	—	—	—
1860-61	469,759	—	*	—	—	—	—	—
1861-62	420,123	—	1 11⅞	393,865	—	—	—	—
1862-63	317,785	—	1 11⅞	297,923	—	—	—	—
1863-64	241,234	—	1 11⅞	226,489	—	—	—	—
1864-65	146,048	—	1 11⅞	136,920	—	—	—	—
1865-66	50,506	—	1 11⅞	44,193	—	—	—	—
1866-67	111,681	—	1 11	55,840	—	—	—	—
1867-68	101,877	—	1 11⅛	57,305	—	—	1 11⅛	674
1868-69	20,733	—	1 11⅛	11,669	—	—	1 11⅛	2,647
1869-70	—	40,031	—	—	1 11½	25,019	1 11½	6,878
1870-71	—	131,867	—	—	1 10½	32,966	1 10½	21,252

* Up to the year 1860-61 inclusive, the Home Treasury was open at all times for the sale of Bills on India, at rates altered from time to time by advertisement. Consequent on the Mutiny it was necessary to refrain from drawing on India, and the exchange was raised to a prohibitory rate.

T. W. KEITH,
Accountant.

1st March 1872,

28. The following statement gives the amount of the annual expenditure by the companies both in India and in England, during each financial year, since the commencement of operations. It will be seen that of the aggregate expenditure up to the present time 40 per cent., or 36,668,187*l.*, has been incurred in this country, and 60 per cent., or 53,341,435*l.*, in India.

STATEMENT of WITHDRAWALS out of CAPITAL for EXPENDITURE; showing the Amount withdrawn in England and in India by all the Guaranteed Indian Railway Companies during each Financial Year from the commencement to 31st March 1872.

Year.	England.	India.	Total.
	£	£	£
1849–50	69,211	6,682	75,893
1850–51	61,164	38,099	99,263
1851–52	154,212	197,111	351,323
1852–53	174,920	252,640	427,560
1853–54	252,484	418,165	670,649
1854–55	960,878	769,278	1,730,156
1855–56	1,934,748	1,431,337	3,366,085
1856–57	1,752,813	1,762,287	3,515,100
1857–58	1,328,243	2,094,825	3,423,068
1858–59	1,941,033	3,551,075	5,492,108
1859–60	2,508,668	4,662,796	7,171,464
1860–61	2,388,315	5,190,400	7,578,715
1861–62	1,597,430	5,004,782	6,602,212
1862–63	1,852,393	4,010,951	5,863,344
1863–64	1,415,146	3,340,507	4,755,653
1864–65	1,396,821	2,725,419	4,122,240
1865–66	2,222,679	3,414,187	5,636,866
1866–67	3,958,357	3,339,346	7,297,703
1867–68	3,911,490	3,195,591	7,107,081
1868–69	1,969,814	2,512,084	4,481,898
1869–70	2,298,680	2,444,171	4,742,851
1870–71	1,899,054	1,888,014	3,787,068
1871–72	886,996	*1,438,297	*2,325,293
	36,935,549	53,688,044	90,623,593
Deduct amount withdrawn by the Calcutta and South-eastern Railway Company, this Railway having subsequently become the property of the State	267,362	346,609	613,971
	36,668,187	53,341,435	90,009,622

* These amounts are partly estimated.

India Office,
8th April 1872.

T. W. KEITH,
Accountant.

29. The following statement shows approximately how the expenditure has been applied :—

Distribution of Capital expended.

Railway Company.	Works and Bridges.	Permanent Way and Stations.	Freight and Insurance.	Rolling Stock and Engines.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian	9,600,000	7,175,000	2,995,000	3,475,000	3,725,000	3,710,000
Great Indian Peninsula	9,447,072	7,415,974	—	2,804,039	351,274	1,660,400
Madras	3,290,358	3,783,930	Stores and Workshops, 394,200	1,069,733	855,900	436,132
Bombay, Baroda and Central India	3,131,191	1,919,318	—	1,061,652	738,974	693,735
Scinde, Punjab and Delhi	1,974,327	3,402,534	765,646	Steamers and Barges, 377,863; 1,884,781	1,026,810	670,012
Great Southern of India	1,128,969				177,994	103,830
Eastern Bengal	2,021,385			305,018	318,989	154,318
Oude and Rohilkund	529,190	1,055,007	—	241,318	311,524	102,296
Carnatic	6,100	31,599		12,063	23,959	13,057

REVENUE.

30. Although the capital expended on the railways exceeded that at the end of the previous year by 2,300,000*l.*, and the mileage open has received an addition of 250 miles, the net revenue has been nearly stationary, showing a decrease of 2,524*l.* The gross receipts for 1870 were 6,213,865*l.* For the year 1871, they were 6,146,130*l.*, the Passenger and Miscellaneous traffic showing an increase of 16,171*l.* and 40,760*l.* respectively, but the goods traffic a falling off of 124,669*l.* The working expenses have at the same time been reduced from 3,367,261*l.* to 3,302,050*l.*

31. The decrease in traffic took place wholly on the East Indian and the Scinde, Punjab, and Delhi lines, but mainly on the former, which, traversing the valley of the Ganges, has to compete with that river. The falling off on the East Indian line amounted to upwards of 43,324*l.* in passenger, 257,300*l.* in goods, and 10,000*l.* in miscellaneous receipts. The diminution in the Scinde and Punjab lines, including the Indus Flotilla, amounted to upwards of 31,237*l.* On all the other lines an increase took place, amounting on the Great Indian Peninsula, which has no competing route, to nearly 200,000*l.*

32. The falling off in the receipts of the East Indian is to be attributed to a large diminution, as compared with the previous year, in the transport of railway materials for other lines, which caused a reduction of upwards of 150,000*l.* in the second half of the year; to the absence of the necessity, which arose in 1870, of conveying a very large amount of food grains to districts where scarcity prevailed; and to a stagnation of commerce, which checked the movement of seeds on the railway, either stopping it altogether, or, in consequence of the railway rates being higher than the goods could bear, transferring them to the river.

33. A competing route cannot, and should not, be prevented, but it is a question whether the company were wise in maintaining a rate which admitted of successful competition, while a lower charge might have brought profitable business. However this may be, the results above described furnish an example of how closely the success of the railways is connected with the commercial prosperity of the country. Not only is more or less produce conveyed from one part of the country to another, according to the demands of commerce, but when markets are dull, the saving of time is unheeded, and preference is given to the slower and more circuitous, but less expensive, routes of the river and, for short distances, the road.

34. It will be seen by the statement on page 28, compiled by the Accountant in this office, that a sum of 4,422,243*l.* was advanced by Government during the year for guaranteed interest. The earnings of the guaranteed railways having been 2,839,338*l.*, a net sum of 1,582,900*l.* became chargeable to the revenue of the country. It is estimated that a similar deficiency will occur in the present year. This is a large amount, and it is a question for serious consideration how it can be diminished. It must be borne in mind that a considerable portion of the system now open has still to be developed, so that in the natural course of things a diminution may be expected. It takes some time for a railway in India to produce the results that may fairly be expected from it. Of the 5,200 miles now completed, only about 1,600 have been opened ten years, and twice that length for about five years; and certain sections forming the connecting links in important lines of communication, such as those between Bombay and Madras, and between Bombay and Allahabad, have only been finished within the last year or two. It should also be borne in mind that, although traffic will fluctuate, and unfavorable seasons for trade and produce will sometimes closely follow each other, there is a steady average increase in the receipts per mile open, joining several years together, as the following table shows:—

Railway.	Average net receipts per mile open for five years,		
	From 1857 to 1861.	From 1862 to 1866.	From 1867 to 1871.
	£	£	£
East Indian - - -	636	660	999
Great Indian Peninsula -	351	476	611
Madras - - - -	185	267	397
Bombay and Baroda - -	106	299	514
Eastern Bengal - - -	—	375	735

35. But taking all these circumstances into consideration, it must be acknowledged that expectations have hitherto been disappointed, both as regards cost of construction and the amount of earnings, and that on some lines the expenses of working and maintenance are out of proportion to the receipts. The average is 54·19 per cent. of the gross earnings; but on some lines it is as high as 98, 80, 70, and 60. The first step in these cases is to reduce expenditure, wherever practicable; the next to work the lines to the best possible advantage, by attracting traffic through all legitimate means, by imposing suitable rates, by watching the requirements of districts and the peculiar circumstances of the people, and by establishing unity and, as far as possible, uniformity in the traffic arrangements between the different companies. The local governments are most anxious to attain these objects, and I can answer for the railway Boards also being very desirous to develope the traffic and afford all reasonable conveniences to the trader and traveller. But it is impossible to disguise the fact that much time is wasted, and an irritation sometimes produced, by long and discursive correspondence upon matters which should be decided promptly and without difficulty. Both Government and the companies aim at the same object generally, but in the course of discussions interests which are identical are often made to appear diverse, and misunderstandings occur which are not favourable to harmonious action and efficient working. There is no reason why this should be so. It is much less in some quarters than in others, and where it is less the work goes on smoothly and satisfactorily.

36. A modified system of keeping and arranging the capital and revenue accounts has been established this year, and forms presenting in detail the working of each department in the railway have been settled. In the revenue accounts an accurate and explicit statement will be furnished of the earnings and expenses of each line during every half year, and by the detailed returns statistical data will be given, which, by affording the means of judging whether true economy has been practised and proper measures taken for developing the resources of the various undertakings, will be the best guide for future administration.

37. The mode of making up the half-yearly revenue accounts of the railways has also been re-settled during the year. It has hitherto been the practice to allow a period of two months, after the end of each half year, to elapse before closing the account, admitting into it any sum due on account of the earnings that may have been realized during that period, but excluding whatever may not have been realized, and leaving it to be added to the next or some future half year's account. It has now been settled that each half year's revenue account shall exhibit a complete statement of the transactions of the company for such period, without reference to earnings that may be unrealized, or to outstanding liabilities, so far as regards the *Statement of Accounts;* but all pecuniary transactions between the Government and the companies are of course based upon cash payments only, and no sums are credited to the companies, nor surplus profits divided, except upon money actually paid into the Government treasury from the railway earnings. As a rule credit is not given by the companies to their customers, so that the cases of debt are only exceptional, and apply to small amounts. It is the practice also to pay all earnings into the Government treasury as soon as realized.

38. The accounts of the State railways are also to be made up half-yearly, and to be compiled under similar rules.

STATEMENTS relating to the GROSS RECEIPTS and EXPENSES, the NET REVENUE, TRAIN MILEAGE, and GUARANTEED INTEREST for the Year ended 31st December 1871.

GROSS RECEIPTS during Year

Railway.	Passenger Traffic.													
	Receipts from Passengers.							Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Receipts for Mail Service.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic—(£.)	Passenger Receipts per Train Mile.	Live Stock.
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.							
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	£	s.	£
East Indian (Main Line)	32,582	34,704	26,406	493,398	—	1,614	588,704	53,166	5,747	3,364	24,408	675,389	2·83	781
„ (Jubbulpore Line)	4,756	4,159	1,289	40,249	—	—	50,453	5,421	1,689	697	3,366	66,626	2·96	44
Great Indian Peninsula	29,498	30,058	—	150,882	151,399	913	362,750	47,796	1,957	940	49,151	462,594	2·11	7,418
Madras	12,596	16,394	—	140,453	9,319	7	178,769	20,823	—	253	4,036	203,881	2·41	532
Bombay, Baroda and Central India	4,540	10,239	—	23,551 Mail 55,810	—	1,632	167,279	13,830	178	1,121	6,123	187,531	4·65	5,463
Scinde, Punjab and Delhi	7,801	10,242	1,537	139,891	—	—	159,531	14,870	202	454	13,278	189,335	3·11	107
Indus Flotilla	946	134	—	2,697	—	—	3,777	332	—	—	—	4,159	—	2
Great Southern of India	765	1,154	—	37,101	—	14	39,034	1,848	—	43	402	41,332	3·27	33
Eastern Bengal	3,702	2,589	—	14,276	53,177	1,435	74,179	7,252	—	18	168	81,617	3·77	34
Oude and Rohilkund	814	933	—	—	11,579	—	13,322	1,580	1	110	—	15,013	6·95	3
Carnatic	46	322	—	2,859	—	—	3,227	55	—	—	—	3,282	2·32	—
STATE.														
Calcutta and South-eastern	—	Upper 278	—	Lower 4,650	—	16	4,944	146	—	—	—	5,090	2·50	8
Khamgaon	—	—	—	—	—	—	325	32	—	—	—	357	·80	—
Oomrawuttee	—	—	—	—	—	—	399	40	—	—	—	439	1·70	—
Nulhatee	202	189	305	3,443	—	—	4,139	453	—	334	—	4,926	4·67	—
Totals	98,308	111,400	29,837	1,130,760	224,465	5,638	1,651,132	166,994	9,774	7,339	106,632	1,941,571	2·77	17,434

MEMORANDUM.—The figures in this Statement are taken

ended 31st December 1871.

Goods Traffic.																	
Minerals.				General Merchandise from each Class.													
Coal and Coke.	Other Minerals.	Total Receipts from Minerals.	Construction Materials for other Railways.	First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth and Highest Class.	Total.	Total Receipts from Goods Traffic—(B.)	Goods Receipts per Train Mile.	Total Receipts from Passenger and Goods Traffic—(A.)+(B.)	Passenger and Goods Receipts per Train Mile.	Total Miscellaneous Receipts—(C.)	Miscellaneous Receipts per Train Mile.	Total Receipts from Passengers, Goods, and Miscellaneous—(A.)+(B.)+(C.)	Total Receipts per Train Mile
£	£	£	£	£	£	£	£	£	£	£	s.	£	s.	£	s.	£	s.
130,177	—	130,177	127	—		included in first.			1,437,362	1,568,447	6·99	2,243,836	9·43	67,012	0·23	2,300,848	9·66
43	—	43	—	—	—	—	—	—	69,615	69,707	3·10	136,333	6·06	2,558	0·11	138,891	6·17
1,609	16,913	18,522	—	467,564	385,652	177,481	171,460	112,276	1,334,433	1,350,373	6·42	1,822,967	8·21	33,022	0·15	1,855,989	8·76
510	—	510	11,963 for Co's. own line.	140,261	52,927	47,887	36,152	33,727	310,954	323,959	5·82	527,840	6·23	21,379	0·25	549,219	6·49
375	117	492	17 for Co's. own line. 21,515	69,730 Meat 1,421	79,988	101,553	6,823	8,039	267,554	298,042	7·40	485,573	12·05	16,219	0·40	501,792	12·46
—	285	285	—	79,875	48,416	21,072	31,253	6,217	186,832	187,226	3·08	376,561	6·20	12,229	0·20	388,790	6·39
—	—	—	—	6,393	26,674	12,183	10,405	545	56,260	56,262	—	60,421	—	—	—	60,421	—
—	—	—	229	17,708	4,954	2,799	1,542	923	27,926	28,194	2·23	69,526	5·51	1,817	0·14	71,343	5·65
4,954	1,007	5,961	—	82,644	19,839	2,418	1,836	552	107,289	113,234	5·25	194,901	9·00	6,611	0·30	201,512	9·31
42	—	42	—	6,546	1,091	1,321	462	285	9,705	9,750	4·51	24,763	11·47	852	0·39	25,615	11·87
—	—	—	1	118	50	24	18	46	256	257	0·18	3,539	2·51	21	0·01	3,560	2·52
5	3	8	—	—	62	—	23	1,783	1,868	1,884	0·92	6,974	3·42	971	0·47	7,945	3·90
—	—	—	—	—	—	—	—	—	—	1,769	4·00	2,126	4·85	9	0·02	2,135	4·83
—	—	—	—	—	—	—	—	—	—	1,303	5·06	1,742	6·76	8	0·03	1,750	6·78
465	58	523	—	510	364	407	229	125	1,635	2,158	2·04	7,084	6·74	704	0·66	7,788	7·39
138,185	18,383	156,568	33,852	2,336,132	620,017	367,144	260,263	164,518	3,811,639	4,023,615	5·75	5,964,186	8·52	163,412	0·23	6,117,598	8·74

from Returns furnished by the Agents in India.

FARES and RATES in Use. EXPENDITURE on REVENUE

Railway.	Passengers, per Mile.					Goods, per Ton per Mile.					Maintenance and Renewal of Way and Works.		Cost of producing Locomotive Power by Wages and Materials.	
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth and Highest Class.	Gross.	Per Train Mile.	Gross.	Per Train Mile.
GUARANTEED.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	£	d.	£	d.
East Indian, Main Line	18	9	4½	3	—	—	—	—	—	—	190,626	9·66	298,386	15·07
East Indian, Jubbulpore Line											20,593	10·98	42,707	22·79
Great Indian Peninsula	18	9	—	4	2·50	10	14	24	34	48	194,999	11·04	398,171	22·55
Madras — Day / Night	18 / 22	5 / 12	—	3	2	8 / 12	14	18	24	36	88,875	12·60	105,951	15·02
Bombay, Baroda and Central India	15	7	—	3 / 4 Mail	—	10	14	20	28	40	77,739*	23·16	91,997	27·41
Scinde, Punjab and Delhi	18	7	4	3	—	10	14	18	25	35	100,567	19·86	116,424	23·00
Great Southern of India	18	5	—	3	—	12	14	18	24	36	9,222	8·77	14,734	14·02
Eastern Bengal	12	6	—	4½	3	9	14	19	28	56	26,432	14·66	30,362	16·83
Oude and Rohilkund	18	9	—	—	2	7 / 9	14	18	23	27	5,875	32·68	4,407	24·51
Carnatic	12	6	—	4	—	13 / 16	20	24	36	48	452	3·85	632	5·38
STATE.														
Calcutta and South-eastern	—	Upper 9	—	Lower 8	—	9	14	19	28	56	1,716	10·11	2,928	17·26
Khangaum	18	9	—	4	2·50	10	14	24	34	48	651	17·64	773	20·97
Oomrawattee	18	9	—	4	2·50	10	14	24	34	48	Maintained by capital.		458	21·28
Nulhatee	28	14	7	5	—	12	18	24	36	12	762	8·62	1,254	15·43
						—	—	—	—	—	647,500	11·11	1,109,754	19·03
Indus Flotilla	50	8	—	4	—	7	9	11·68	16	24	—	—	—	—

* NOTE.—This includes 15,430*l.* for special works and repairs rendered necessary by the extraordinary floods of 1871.

ACCOUNT during Year ended 31st December 1871.

Repairs and Renewals of Carriages and Waggons.		Coaching and Merchandise.		Rates and Taxes.		Compensation for Personal Injury, &c.		Compensation for Damage and Loss of Goods.		Legal and Parliamentary Expenses.		Miscellaneous Working Expenditure, not included in the foregoing.		Total Working Expenditure.	
Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.	Gross.	Per Train Mile.
£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	d.	£	s.
89,657	4·52	217,448	10·97	11,540	·58	—	—	1,897	·10	2,176	·11	168,195	7·35	921,125	4·03
8,879	4·74	15,348	8·20	138	·07	—	—	442	0·24	15	—	19,338	6·53	107,370	4·46
119,454	6·76	210,166	11·90	7,025	0·39	1,866	0·10	526	0·03	1,729	0·09	78,155	4·42	1,013,091	4·77
15,832	2·24	43,721	6·20	5,292	0·75	71	0·01	250	0·03	619	0·09	20,906	2·96	231,517	3·32
27,031	3·05	57,162	17·03	3,469	1·03	523	0·15	684	0·20	543	0·16	*40,328	12·01	299,481	7·43
25,942	5·12	64,820	12·80	1,290	·25	—	—	1,832	0·36	1,192	0·23	71,516	14·18	383,883	6·31
3,053	2·90	5,767	5·48	431	·41	—	—	14	0·01	11	0·01	6,134	5·84	39,366	3·12
5,341	2·96	27,951	15·50	1,740	0·96	1	0·00	,674	1·48	155	0·08	17,304	9·59	111,950	5·17
599	3·33	3,803	21·15	60	0·34	—	—	40	0·22	5	0·02	2,965	16·49	17,754	8·23
63	0·54	297	2·53	—	—	—	—	—	—	—	—	867	7·38	2,311	1·64
246	1·35	1,698	10·01	150	0·89	—	—	—	—	—	—	912	5·40	7,650	3·75
234	6·35	243	6·60	Included in charge for Coaching and Merchandise.						—	—	—	—	1 901	4·28
140	6·51	207	9·63	Do.		do.		do.		—	—	—	—	806	3·11
768	8·75	1,191	13·58	—	—	—	—	—	—	—	—	446	5·08	4,521	4·29
297,239	5·09	649,822	11·15	31,135	0·53	2,466	·02	3,360	·13	6,445	·11	400,892	6·87	3,251,725	4·50
—	—	—	—	—	—	—	—	—	—	—	—	—	—	50,325	—
														3,302,050	

* This includes 15,531*l.* for collection and delivery of goods.

STATEMENT of the REVENUE in 1870 and 1871.

Railway.	Receipts.								Expenditure.						Per-centage of Working Expenses to Gross Receipts.		Net Receipts.	
	Passengers.		Goods.		Miscellaneous.		Total.		Maintenance.		Working.		Total.					
	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	£	£	£			£	£
East Indian: Main Line -	722,510	675,398	1,840,728	1,569,668	68,231	77,862	2,631,469	2,322,928	193,897	190,626	905,562	790,499	1,099,459	981,125	41·78	41·68	1,532,321	1,341,803
„ Jubbulpore Line -	62,846	66,634	55,976	69,749	3,641	9,564	122,463	145,947	19,170	20,503	85,676	86,867	104,846	107,370	85·61	72·23	17,617	38,577
Great Indian Peninsula - -	434,276	462,584	1,198,629	1,360,373	27,042	33,022	1,659,947	1,855,979	319,061	194,999	713,569	817,092	1,032,630	1,012,091	62·20	51·89	627,317	843,888
Madras - - - -	187,112	202,851	286,912	325,891	19,189	20,383	493,213	549,125	72,923	88,875	186,770	192,642	259,693	281,517	52·65	51·80	233,520	267,608
Bombay, Baroda and Central India - - - - -	189,578	187,531	294,068	298,042	9,452	16,219	493,098	501,792	67,617	77,739	230,909	221,742	298,526	299,481	60·54	59·60	194,572	202,311
Scinde, Punjab and Delhi -	182,589	189,335	232,060	186,726	4,878	12,229	419,527	388,290	53,123	100,567	280,002	283,316	333,125	383,883	79·40	99·71	86,402	4,407
Indus Steam Flotilla - -	5,211	4,159	94,937	56,262	780	—	100,928	60,421	338	—	63,202	50,325	63,540	50,325	62·95	82·45	37,388	10,096
Great Southern of India - -	39,318	41,332	30,317	28,194	1,327	1,817	70,962	71,343	11,338	9,222	31,308	30,144	42,646	39,366	60·09	55·17	28,316	31,977
Eastern Bengal - - -	70,553	81,617	105,294	113,284	2,245	6,611	178,092	201,512	19,318	26,432	79,869	85,518	99,187	111,950	55·69	55·55	78,905	89,562
Oude and Rohilkund - -	16,329	15,013	6,071	9,749	2,183	852	24,583	25,614	3,395	5,875	14,210	11,879	17,605	17,754	71·61	69·31	6,978	7,860
Carnatic - - -	3,054	3,282	409	257	55	21	3,518	3,560	742	452	3,225	1,859	3,967	2,311	112·61	64·91	*Dr. 447*	1,249
																		2,839,338
STATE.																		
Calcutta and South-eastern -	5,050	5,090	1,993	1,884	394	971	7,437	7,945	1,861	1,716	5,969	5,934	7,830	7,650	105·28	96·18	*Dr. 393*	295
Khangaum - - -	—	358	—	1,769	—	9	—	2,136	—	651	—	1,250	—	1,901	—	80·89	—	235
Oomrawattee - - -	—	439	—	1,303	—	8	—	1,750	—	(Capital)	—	805	—	805	—	45·97	—	945
Nulhatee - - -	5,952	4,926	2,584	2,158	92	704	8,628	7,788	968	762	3,239	3,759	4,207	4,521	48·75	58·50	4,421	3,267
Total - -	1,924,378	1,940,549	4,149,978	4,025,309	139,509	180,272	6,213,865	6,146,130	763,751	718,419	2,603,510	2,583,631	3,367,261	3,302,050	54·18	53·505	2,846,604	2,844,080

Receipts and Expenses per Train Mile in 1870 and 1871.

Railway.	Gross Receipts.		Expenses.																				Net Receipts.	
			Maintenance.		Locomotive.		Rolling Stock.		Traffic.		Rates and Taxes.		Personal Compensation.		Compensation for Damages.		Legal.		Miscellaneous.		Total.			
	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.	1870.	1871.
	s.	*s.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*s.*	*s.*	*s.*	*s.*
GUARANTEED.																								
East Indian :—Main Line	8·66	9·66	7·66	9·66	14·96	15·07	4·21	4·52	8·64	10·97	0·13	0·58	0·00	—	0·19	0·10	0·02	0·11	7·63	7·35	3·62	4·03	5·04	5·63
„ Jubbulpore Line	5·45	6·17	10·24	10·98	28·24	22·79	4·27	4·74	6·01	8·20	—	0·07	—	—	0·07	0·24	—	—	7·16	6·53	4·66	4·46	0·78	1·71
Great Indian Peninsula	9·14	8·76	21·07	11·04	22·33	22·55	5·19	6·76	12·97	11·90	0·08	0·39	0·23	0·10	0·06	0·03	0·15	0·09	6·14	4·42	5·68	4·77	3·45	3·98
Madras	6·60	6·49	11·72	12·60	15·45	15·02	1·98	2·24	6·93	6·20	1·94	0·75	—	0·01	0·22	0·03	0·16	0·09	3·33	2·96	3·47	3·32	3·12	3·17
Bombay, Baroda and Central India	10·55	12·46	17·36	23·16	23·05	27·41	6·51	8·05	11·02	17·03	0·31	1·03	0·45	0·15	0·28	0·20	0·23	0·16	17·44	12·01	6·39	6·70	4·16	5·76
Scinde, Punjab and Delhi	7·90	6·39	12·01	19·86	28·04	28·00	4·04	5·12	16·03	12·80	0·45	0·25	0·00	—	0·19	0·36	0·05	0·23	14·48	14·18	6·27	6·31	1·62	·08
Great Southern of India	5·92	5·65	11·36	8·77	15·57	14·02	2·35	2·90	6·35	5·48	0·95	0·41	—	—	0·02	0·07	0·00	0·01	6·08	5·84	3·55	3·12	2·36	2·53
Eastern Bengal	9·77	9·31	12·71	14·66	16·46	16·83	7·19	2·96	15·37	15·50	1·62	0·96	—	0·00	0·03	1·48	0·25	0·08	11·68	9·59	5·44	5·17	4·32	4·14
Oude and Rohilkund	8·24	11·87	13·65	32·68	23·20	24·51	3·90	3·33	15·62	21·15	0·30	0·34	0·80	—	0·16	0·22	—	0·02	13·14	16·49	5·90	8·23	2·33	3·64
Carnatic	2·52	2·52	6·38	3·85	7·29	5·38	0·83	0·54	4·21	2·53	0·56	—	—	—	—	—	1·09	—	13·73	7·38	2·84	1·64	*Dr.* 0·32	·88
STATE.																							*Dr.*	
Calcutta and South-eastern	3·80	3·90	11·43	10·11	17·95	17·26	1·64	1·35	12·24	10·01	0·91	0·89	—	—	0·00	—	0·17	—	3·75	5·40	4·01	3·75	0·20	·15
Khangaum	—	4·82	—	17·64	—	20·97	—	6·35	—	6·60	Included in traffic.											4 28	—	·54
Comrawattee	—	6·78	—	—	—	21·28	—	6·51	—	9·58												3·11	—	3·67
Nulhatee	8·07	7·39	10·87	17·64	15·49	15·43	5·63	8·75	10·50	13·58	—	—	—	—	—	—	—	—	4·74	5·08	3·93	4·29	4·13	3·10
Average	8·49	8·74	12·72	11·11	18·85	19·03	4·39	5·07	10·33	11·15	0·33	0·53	0·09	0·02	0·15	0·13	0·09	0·11	8·03	6·87	4·59	4·50	3·90	4·24
United Kingdom average	5·13		5·89*d.*		7·92*d.*		2·63*d.*		8·64*d.*		2·72*d.*		0·45*d.*		0·17*d.*		0·35*d.*		1·93*d.*		2·50*d.*		2·63*s.*	

MEMORANDUM.—The figures are quoted from Returns furnished by the Agents in India.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

Statement of the Total Amount of Interest advanced to each of the under-mentioned Railway Companies to 31st December 1871.

Railway Company.	Interest advanced to 31st December 1870.	Interest advanced during 1871.			Total.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian - - -	14,260,843 12 8	1,447,721 6 3	12,779 19 0	1,460,501 5 3	15,721,344 17 11
Great Indian Peninsula	7,826,996 16 3	1,129,653 7 11	20,171 16 0	1,149,825 3 11	8,976,822 0 2
Madras - - -	4,392,131 1 8	486,933 8 5	—	486,933 8 5	4,879,064 10 1
Bombay, Baroda and Central India - -	2,762,811 7 4	387,360 2 11	1,083 12 6	388,443 15 5	3,151,255 2 9
Scinde, Punjab & Delhi	3,100,228 19 5	503,206 6 4	2,902 14 6	506,109 0 10	3,606,338 0 3
Great Southern of India	489,176 13 8	120,739 13 2	—	120,739 13 2	609,916 6 10
Eastern Bengal - -	924,065 9 10	139,209 19 3	996 3 9	140,206 3 0	1,064,271 12 10
Oude and Rohilkund -	227,272 13 6	134,337 1 4	3,946 13 11	138,283 15 3	365,556 8 9
Carnatic - -	12,305 16 0	31,200 14 7	—	31,200 14 7	43,506 10 7
Total - - £	33,995,832 10 4	4,380,362 0 2	41,880 19 8	4,422,242 19 10	38,418,075 10 2

India Office, 8th April 1872.

T. W. KEITH,
Accountant.

A STATEMENT showing approximately the AMOUNTS advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to the 30th June 1871, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total Amount advanced to 31st December 1871.*	Aggregate of Net Revenue Balances for the several half-years to 30th June 1871, inclusive.	Net Amount advanced.
	£	£	£
East Indian, Main line - - -	14,476,406	9,988,416	4,487,990
„ Jubbulpore line - -	1,244,938	46,547	1,198,391
Great Indian Peninsula - -	8,976,822	4,434,436	4,542,386
Madras - - - -	4,879,065	2,034,303	2,844,762
Bombay, Baroda and Central India -	3,151,255	1,142,416	2,008,839
Scinde, Punjab and Delhi - -	3,606,338	392,190	3,214,148
Great Southern of India - -	609,916	223,857	386,059
Eastern Bengal - - -	1,064,272	602,461	461,811
Oude and Rohilkund - - -	365,556	*13,338*†	378,894
Carnatic - - - -	43,507	2,609	40,898
Total - -	£38,418,075	18,853,897	19,564,178

* The Interest for the half-year to 30th June 1871 not being paid until the succeeding half-year.
† Amount advanced on Revenue Account in excess of Receipts.

India Office, 8th April 1872.

T. W. KEITH,
Accountant.

TRAFFIC AND WORKING.

39. The gross traffic receipts have, as already shown under the head of Revenue, slightly declined during the past year. The passenger receipts were, however, rather more, corresponding with the increase in the number of passengers, which, in 1871, was 18,940,585, compared with 18,224,859 in 1870. The passengers consisted of, 1st class, 144,215; 2nd, 642,645; intermediate, 523,740; 3rd, 14,113,436; 4th, or coolie, 3,516,549, each class showing a slight excess over the previous year. The proportions per cent. were 93·02 of the 3rd and 4th classes, 6·15 of the 2nd and intermediate, and only ·83 of the first. Traffic. Passenger.

40. The first-class passengers contributed 98,308*l.*, the 2nd 111,400*l.*, the intermediate, which only exists on two lines, 29,837*l.*, and the 3rd and 4th 1,405,225*l.* to the revenue.

41. The merchandise conveyed during the year 1871 amounted to 2,529,479 tons, besides 284,524 tons of coal and 455,568 of other minerals. This is 444,000 tons less than the previous year. Goods.

42. In regard to working expenses, the East Indian shows in its Main and Jubbulpore lines jointly the large saving of 120,000*l.* The Great Indian Peninsula, Indus Flotilla, and Great Southern of India show a reduction of upwards of 20,500*l.*, 13,000*l.*, and 3,300*l.*, respectively. The Madras, the Scinde, Punjab and Delhi, and the Eastern Bengal show an increase of 22,000*l.*, 50,700*l.*, and 13,000*l.*, respectively. The expenses of the Bombay, Baroda and Central India remain about the same.

43. Taking all together, the result is so far satisfactory that the net receipts, notwithstanding the fall in the gross receipts, are only 2,500*l.* less than they were in 1870, being 2,844,080*l.*, as compared with 2,846,604*l.*

44. The average proportion of the total working expenses to receipts is 53·70 per cent., varying between 41·68 on the East Indian Main Line, and 99·71 on the Scinde, Punjab and Delhi, a difference aggravated by the fact that the average amount obtained per head from passengers and per ton of goods is the highest on those lines which work at the largest per-centage on receipts.

45. On this subject I would call particular attention to a note, printed in the Appendix, by Mr. Rendel, the Consulting Engineer at this office for State railways and to the East Indian Railway Company, on the average rates charged, the work done, and cost of doing it on some of the principal Indian lines for the second half of 1871.

46. The number of train miles run was 14,080,064, compared with 14,396,790 of 1870. Of this number 4,789,184 apply to passenger, and 4,921,434 to goods trains. The rest, viz., 4,369,446, were run by mixed and mineral trains. This reduction is principally attributable to the East Indian Railway, in consequence of the opening of the Chord line, which, while it has reduced the length to be traversed by up country traffic, has been the means of diminishing the working expenses. Train mileage results.

47. The train mileage receipts vary from 12·46*s.* on the Bombay, Baroda and Central India to 2·52*s.* on the Carnatic, the expenses ranging between 7·43*s.* on the Bombay, Baroda and Central India, 4·03 on the East Indian, and 1·64 on the Carnatic. The average train mileage receipts and expenses on the 14 open lines were 8·74 and 4·50 respectively. On the railways of the United Kingdom the average mileage receipts for the year 1870 were 5·13*s.*, and the expenses 2·54*s.* Train mileage receipts.

48. The following tables furnish all particulars with respect to the traffic and working of the lines, and show the relative expenses of each in its various departments. It will be seen that it cost the East Indian Railway Company 92·61*l.* per mile open for the maintenance and renewal of their main line, and 9·66*d.* per train mile. The Great Indian Peninsula Company paid for the same description of work 153*l.* per mile and 11*d.* per train mile. This difference is owing partly to the greater wear and tear, from the steep inclines on the latter, and to the large outlay necessary to maintain what was imperfectly constructed in the first instance. Other railways show similar disparities in certain departments, the greater cost of fuel on the Western and Southern lines making a marked increase in the expenses of the locomotive department as compared with the railways in Bengal. On the Great Indian Peninsula and on the Bombay, Baroda and Central Indian Railways, for instance, the locomotive expenses per train mile during the year were 22·79*d.* and 27·41*d.*, while on the East Indian main line, and on the Eastern Bengal they were 15·07*d.* and 16·83*d.* At the same time on the Madras lines, where wood is more generally available at a moderate cost, and where it must be added good management prevails, the train mileage cost of the locomotive department is shown to be for the Madras Railway 15·02*d.*, and for the Great Southern of India 14·02*d.*

SUMMARY of TRAFFIC on the INDIAN RAILWAYS during the Year ended 31st December 1871.

Railway.	Number of Miles of Open Line.			Number of Miles of Sidings.	Passenger Traffic.													Goods Traffic.						
					Number of Carriages of each Class used.				Number of Passengers (exclusive of Holders of Season and Periodical Ticket(s).						Number of Holders of Season and Periodical Tickets.	Number of Carriages and Parkees.	Number of Horses.	Number of Dogs, &c.	Number of Trucks used.	Live Stock.			Minerals.		
	Double.	Single.	Total.		First.	Second.	Third.	Fourth.	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Total Number of Passengers.						Number of Cattle.	Number of Sheep.	Number of Pigs, &c.	Number of Tons of Coal and Coke.	Number of Tons of other Minerals.	Total Number of Tons of Minerals.
GUARANTEED.																								
East Indian (Main Line)	415½	866	1,281½	275	—	—	—	—	31,350	91,453	505,753	4,582,547	—	5,210,905	3,888	976	4,775	7,895	—	647	1,061	—	265,995	—	266,252
„ (Jubbulpore Line)	—	223½	223½	21	—	—	—	—	3,190	8,701	3,523	212,900	—	228,315	—	74	575	600	—	32	12	—	48	—	48
Great Indian Peninsula	287	987	1,274	165·—	87	171	342	47	28,330	151,209	—	1,352,938	1,930,627	3,463,604	551	571	4,593	6,291	6,063	401	266,803	57	1,680	445,484	447,164
Madras	—	832	832	91	—	—	—	—	10,968	117,726	—	1,916,204	257,454	2,302,352	2	760	3,847	3,070	—	924	3,506	721	591	—	591
Bombay, Baroda and Central India.	28	327	350	58	—	—	—	—	14,437	119,309	—	2,102,463 Mail 369,541	—	2,605,750	1,818	294	1,884	2,739	2,512	3,782	177,238	359	1,146	6,360	7,530
Scinde, Punjab and Delhi	4½	663	667½	115	90	258	152	—	13,523	35,359	11,307	1,914,763	—	1,975,452	—	231	3,011	5,487	2,234	129	638	13	1,173	—	1,173
Indus Flotilla	—	—	—	—	—	—	—	—	169	163	—	5,802	—	6,124	—	19	81	30	—	—	3	4	—	—	—
Great Southern of India	—	168	168	13·37	7	2	34	—	1,716	12,176	—	799,993	—	813,885	2	202	538	548	328	129	109	457	—	—	372
Eastern Bengal	—	156½	156½	—	—	—	—	—	36,818½	50,073½	—	282,411½	1,007,577	1,376,880½	2,256½	147	834	1,203	—	60	124	—	11,461	3,295	14,776
Oude and Rohilkund	—	42	42	5	—	—	—	—	2,073	5,019	—	—	320,891½	327,983½	—	81	510	847	—	4	33	—	167	—	167
Carnatic	—	19	19	2	3	10 4 composite.	16	—	501	5,923	—	84,641	—	91,065	—	12	—	22	12	1	3	2	—	—	—
STATE.																									
Calcutta and South-eastern	—	28	28	9	1 saloon.	6 upper.	26 lower.	—	—	4,078	—	341,869½	—	345,947½	33	—	30	62	24	63	40	—	52	19	71
Khangaum	—	8	8	0·57	—	—	—	—	—	—	—	—	—	19,066	—	—	—	—	—	—	—	—	—	—	—
Oomrawattee	—	6	6	·75	—	—	—	—	—	—	—	—	—	30,973	—	—	—	—	—	—	—	—	—	—	—
Nulhuttee	—	27	27	—	2	1	3	—	550	955½	3,157½	67,563½	—	72,226½	—	41	40	82	20	—	—	—	2,191	410	2,601
Totals	730	4,353	5,083	—					144,215	642,645	523,740	14,113,436	3,516,549	18,940,585	8,555½	4,058	20,718	28,381	—	6,172	449,575	1,613	284,524	445,569	740,092

SUMMARY of TRAFFIC on the INDIAN RAILWAYS during the Year ended 31st December 1871—*continued.*

Railway.	Goods Traffic.							Number of Trains Run.					Average Number of Vehicles in each Train.		No. of Engines used.	Number of Miles travelled by Trains (except in shunting and in conveying Materials for Construction or Revenue Purposes).				
	Minerals.	Number of Tons of Merchandise (exclusive of Live Stock and Minerals).																		
	Number of Tons of Construction Materials for other Railways.	First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth and Highest Class.	Total.	Trains, including Special Passenger and Troops.	Goods Trains.	Mineral, including Materials for Construction Trains for other Railways.	Mixed Trains.	Total Number of Trains.	Passenger.	Goods.		By Passenger Trains, including Special and Troops.	By Goods Trains.	By Mineral, including Materials for Construction Trains for other Railways.	By Mixed Trains.	Total Number of Train Miles.
GUARANTEED.																				
East Indian (Main Line)	257	—	—	—	—	—	769,531	2,309 extra 9,221	4,125	1,620	15,686	33,561	—	—	406 (average)	877,908 extra 698,634	1,391,395	118,043	1,673,195	4,759,375.
„ (Jubbulpore Line)	—	—	—	—	—	—	93,843	730 extra 556	339	—	730	2,405	—	—	34	162,089 84,711 extra	39,311	—	163,596	449,707
Great Indian Peninsula	—	383,783	160,130	14,450	40,214	17,177	615,754	17,841	21,856	7,456	4,005	45,158	13·72	23·34	251	1,367,030	2,273,243	54,880	542,102	4,236,255
Madras	10,626 for Co's. own line.	205,874	52,171	32,681	14,891	10,099	315,716	1,691	3,247	—	6,752	11,690	6	18	119	198,517	366,604	—	1,132,651	1,697,772
Bombay, Baroda and Central India	24 59,941 for Co's. own line.	92,215	58,011	47,108	2,316	1,614	201,764	6,963	6,259	—	2,607	15,729	10	28	55	290,255½	276,688½	89,575	238,417½	894,936
Scinde, Punjab and Delhi	—	137,975	42,738	14,999	21,334	3,117	220,073	5,324	1,844	—	734	7,902	11	31	79	893,253	243,900	—	77,304	1,214,457
Indus Flotilla	—	5,877	7,735	3,916	4,264	57	21,849	—	—	—	—	—	—	—	—	—	—	—	—	—
Great Southern of India	372	75,293	9,546	4,927	1,551	604	91,921	—	—	—	2,635	* 2,635	6	12	21	—	—	—	252,265	252,265
Eastern Bengal	—	136,628	22,234	2,263	1,213	158	162,546	4,063	1,396	—	644	6,103	—	—	—	215,975	153,170	—	58,562	432,707
Oude and Rohilkund	—	39,803	3,390	3,029	845	448	47,515	—	—	—	869	869	—	—	9	—	—	—	43,143	43,143
Carnatic	—	1,107	212	88	49	92	1,548	—	—	—	1,483	1,483	5	1	4	—	—	—	28,177	28,177
STATE.																				
Calcutta and South-eastern	—	—	299	—	48	21,918	22,265	59	—	—	1,804	1,863	7	26	8	1,473	—	—	39,258	40,736
Khangaum	—	—	—	—	—	—	24,115	—	374	—	730	1,104	—	—	—	2,990	—	—	5,840	8,830
Oomrawattee	—	—	—	—	—	—	22,689	—	—	224	634	858	—	—	—	1,344	—	—	3,804	5,148
Nulhuttee	—	3,117	1,963	1,123	216	8	5,737	—	11	—	730	741	—	—	4	—	—	—	21,056	21,056
Totals	71,220	1,081,672	357,784	123,599	87,441	55,292	2,615,966	42,257	39,490	9,300	39,313	131,360				4,789,184½	4,748,511½	262,498	4,279,870	14,080 064

49. It is perhaps a truism to say that every department of a railway requires a careful and vigilant administration; but one of the most important points to keep in view is the work done by each train and the proportion of paying load to the dead weight as well as the cost of carriage. Until the cost of conveying a passenger or a ton per mile is ascertained there is no satisfactory basis for regulating charges for conveyance. High rates are frequently imposed in ignorance of facts which would show that a reasonable profit could be earned per ton or passenger, and a much better aggregate result produced, by lower charges. If it be found that on one line the average load per train of the same size is twice as much as on another, there must be some cause to account for such disparity, and some means of removing it.

50. If, also, great diversity exists in the cost of running a train, or of carrying a ton of goods or a passenger one mile, it is the duty of all those who are concerned in the management of the railways to reconcile the differences or to prevent them. The circumstances of the several lines may vary and results may appear to correspond with such variation; but more is apt to be attributed to this cause than is really due to it, and results will often be found to depend chiefly upon management. Where there is a sound and liberal system of administration, natural obstacles and difficulties diminish and sometimes disappear altogether.

51. The tables prepared by Mr. Rendel, which are given in the Appendix, contain some remarkable instances of the differences above alluded to, and are worthy of careful investigation and study.

Fuel.

52. Every year the question of fuel has been alluded to, and each year its importance increases. The expenditure last year on this item alone was 421,251*l.*, of which 273,024*l.* represents the cost of English fuel, 97,293*l.* the cost of Indian coal, and 50,934*l.* that of wood. The expenses of the locomotive department on those lines which are not yet accessible to native coal show the direct effect which the cost of providing English coal has upon the revenue. Coal has happily been found in various places in Central India, and when access to the beds by railway has been established, the Great Indian Peninsula and the Bombay and Baroda Railways will profit by its use. But, when available, the question of using it with care and economy requires attentive consideration. This part of the subject has recently been treated in an able manner by Mr. Frederick C. Danvers, of this office, in a book which has been printed by order of the Secretary of State in Council. In this treatise much information of a practical kind is given as regards the raising, conveyance, storage, and consumption of coal, as well as the utilization of slack coal, which will be useful to those who are concerned in the supply and use of coal fuel in India.

53. No coal has been discovered in the neighbourhood of the Madras lines, which have therefore hitherto been dependent upon English or Australian coal or native wood. But attention has been drawn to another description of fuel by Colonel A. Romaine Wragge, who strongly advocates the use of condensed peat, which, he says, may be obtained in large quantities from the deposits in the Madras Presidency, especially on the slopes of the Neilgherries. Any suggestion for improving our fuel supply is worthy of careful consideration, and if a new source in the shape of peat bogs exists it would be desirable that a trial should be made to test its practicability and real value. An interesting paper on the subject was read by Colonel Wragge at the Society of Arts, and many gentlemen of experience and local knowledge took part in the discussion which followed. It must be added, however, that the opinions hitherto expressed by the Madras authorities have not encouraged the hope that peat could be economically used as fuel on the railways.

Railway Company.	Cost of Coal.	Cost of Coke.	Cost of Patent Fuel.	Cost of Wood.	Total Cost of Fuel.
	£	£	£	£	£
East Indian	86,898	—	—	5	86,903
Great Indian Peninsula	184,668	—	—	—	184,668
Madras	9,878	15,496	2,529	19,048	46,951
Bombay, Baroda and Central India	42,759	—	—	—	42,759
Scinde, Punjaub, and Delhi	10,486	—	650	30,308	41,444
Great Southern of India	3,546	—	2,163	437	6,146
Eastern Bengal	10,395	—	—	67	10,462
Oude and Rohilkund	502	—	—	1,069	1,571
Carnatic	349	—	—	—	349
Total Cost	349,481	15,496	5,342	50,934	421,253

54. The number of locomotives and vehicles belonging to each railway, and the number of the former employed to work the lines during the past year, are given in the following tables. Locomotive power.

Railway Company.	Locomotives supplied.			Passenger Carriages.		Trucks and Waggons.		Total Number of Vehicles on 31st December 1871.
	Former Number.	Added in 1871.	Total Number, 31stDec. 1871.	Former Number.	Added in 1871.	Former Number.	Added in 1871.	
East Indian - -	535	—*	535	923	—	6,846	—†	7,767
Great Indian Peninsula -	324	—	324	1,261	—	6,365	196	7,822
Madras - - -	124	2	126	310	31	3,243	29	3,613
Bombay, Baroda and Central India - - -	72	—	72	183	5	2,874	—17 withdrawn.	3,045
Scinde, Punjab and Delhi -	133	—	133	335	5	1,826	62	2,208
Great Southern of India -	20	—	20	41	2	319	22	384
Eastern Bengal - -	43	—	43	146	4	650	77	877
Oude and Rohilkund - -	10	18	28	34	61	93	294	482
Carnatic - - -	4	—	4	33	—	43	—	76
Total - -	1,265	20	1,285	3,266	108	22,259	643	26,274

* Two locomotives were condemned as worn out. † Two burnt.

LOCOMOTIVES EMPLOYED IN THE TRAFFIC.

Railway.	Number.	No. per Mile of Railway open.	No. of Miles run by each.
East Indian : Main Line -	406	3·15	11,722
,, Jubbulpore Line	34	6·56	13,227
Great Indian Peninsula -	251	5·07	16,877
Madras - - -	119	6·90	14,225
Bombay, Baroda, and Central India - - -	55	6·36	14,643
Scinde, Punjab and Delhi -	79	8·44	15,388
Great Southern of India -	21	8·00	12,012
Eastern Bengal - -	43	3· 7	10,063
Oude and Rohilkund - -	9	4·62	4,794
Carnatic - - -	4	4·75	7,044
STATE.			
Calcutta and South-eastern -	8	3· 5	5,090
Nulhuttee - - -	4	6·75	5,414

55. The following relates to each railway separately:—

EAST INDIAN RAILWAY.

Length, 1,504 miles. { Main Line, 1,280 miles. / Jubbulpore Line, 224 miles.

56. This undertaking having been completed by the opening of the Chord line on the 1st of January 1871, construction operations have been of a comparatively trifling character during the past year. Satisfactory proof was given of the stability of the works by their exemption from harm during the severe floods of last autumn, when considerable damage was inflicted on other lines by the extraordinary rainfall. The capital expenditure amounted to 30,724,268*l.* on the

31st March last, and unless the necessity for doubling the line in certain places, and for providing other means of accommodating a larger traffic should arise, no considerable addition need be made to the capital account.

57. The traffic during the year was less, compared with 1870, both in passengers and goods, but there has been a large reduction in the train mileage, and consequently in the working expenses. The chief falling off in the traffic was in railway materials for other lines. In oil and other seeds there was a considerable diminution, the seed crop having failed in the North-West Provinces, and a large amount of grain having been carried in the previous year in consequence of famine in certain districts. Depressed markets, and increased rates for certain goods carried more than 300 miles, also sent much of the up-country traffic to the river. Boats were in the early part of the year competing with the railway between Mirzapore and Calcutta.

58. The gross receipts last year from the two lines were 2,439,757*l.*, compared with 2,753,932*l.* of the previous year, and the net receipts 1,380,275*l.* and 1,549,938*l.* respectively. The train mileage receipts were 9·66*s.*, and the expenses 4·03*s.*

GREAT INDIAN PENINSULA RAILWAY.

Length, 1,270 miles. { North-east Line and Nagpore Branch, 860 miles. / South-east Line, from Junction, 410 miles.

59. The whole of this railway is now open, the portion between the Kistna River and Raichore, the junction with the Madras line, having been finished, with the exception of the bridge over that river, in June last. Until this work is completed, the traffic is conveyed by a temporary tramway over the bed of the river in the dry season, and by means of a steamer and boats during the monsoon.

60. Capital expenditure, besides being applied to the bridge in question, is still being incurred upon the repair and restoration of the works which failed. The total amount expended up to the 31st March was 23,249,349*l.* It is estimated that a further sum of about 1,750,000*l.* will be required.

61. The traffic receipts were rather better than the previous year. The gross receipts were 1,855,879*l.*, compared with 1,659,947*l.*, and the net 843,888*l.*, compared with 627,317*l.* The train mileage receipts were 8·76*s.*, and the expenses 4·77*s.* A considerable interchange of traffic has grown up between the East Indian and the Great Indian Peninsula Railway.

MADRAS RAILWAY.

Length, 832 miles. { South-west Line, 407 miles. / Bangalore Branch, 85 miles. / North-west Line, 340 miles.

62. The North-west line of this railway was opened throughout in March 1871, completing the whole undertaking, with the exception of the branch to the Neilgherry Hills from Coimbatoor. The capital expended amounted, on the 31st March last, to 10,041,792*l.* The completion of the Neilgherry branch and of a few minor works will take 250,000*l.* more.

63. The prevailing stagnation of trade has told upon the traffic, the gross receipts from which, however, have increased from 493,213*l.* in 1870 to 549,219*l.* in 1871. The net receipts were 213,520*l.* and 267,702*l.* respectively. The train mileage receipts and expenses 6·49*s.* and 3·22*s.* respectively.

BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY.

Length, 388 miles.

64. The extension of this line to Wudwan, which was commenced in November 1870, has been completed and opened. Its length is 78 miles, and it has cost about 600,000*l.* The manner in which this work has been carried out furnishes an example of how expeditiously and cheaply a line may be constructed under favourable circumstances, and with skilful and energetic engineer officers to direct operations. A further branch from this line to Patree is being constructed, under a joint arrangement between the Company and the Government. Its length is 22 miles, and its object is to develope the production of salt at Patree, and to reduce the cost of preventive establishments. The works have been contracted for at rates which will bring the cost to about 4,000*l.* a mile. It is to be made on the broad gauge, and to be laid with rails 48 lbs. to the yard.

Damage was done to some of the works on the line between Surat and Ahmedabad by the floods of August last. The Mhye and Nerbudda bridges suffered slightly, but the bridge over the Watruck River was carried away, the whole of the superstructure being closed up with drift, and offering a solid dam to the stream, which overpowered it. The flood on this occasion was higher than the greatest recorded height which had ever been attained.

65. The capital expenditure on the 31st March last on the whole undertaking had reached 7,665,577*l.*

66. The traffic has improved during the year, and an increase in the amount of cotton conveyed is traceable to the Veerumgaum extension. The gross receipts were 501,729*l.*, compared with 493,098*l.* of the previous year, and the net receipts 202,311*l.*, compared with 194,572*l.* The train mile receipts were 12·46*s.*, and the expenses 7·43*s.* This large proportion of working charges was in great measure due to an expenditure out of revenue of upwards of 15,000*l.* upon the bridges injured by the severe floods just referred to.

SCINDE, PUNJAB, AND DELHI RAILWAY.

Length, 663 miles { Scinde, 110. / Punjab and Delhi, 553.

Distance worked by steamers on River Indus, 500 miles.

67. The section of this line between Umballa and Sirhind suffered severely from the floods in June and July. Great damage was done to the bridges over the Guggar, Sirhind, and Beas Rivers. One pier of the last-mentioned yielded to the force of the water, and the girders were carried away and lost. It was here that a train so narrowly escaped being engulfed in the river, as described under the head of accidents in page 8 of this Report. The traffic was interrupted, but, through the strenuous exertions of the staff, was resumed within a few days.

68. The revenue has slightly improved, but the net receipts are still small. Great reductions have been made in the establishments. The true capabilities of the line will not be realised until railway communication to Kurrachee from the Punjab by the Valley of the Indus has been established.

EASTERN BENGAL RAILWAY.

Length, 156½ miles.

69. This line suffered great injury from the floods, both in respect to the works and the traffic. Viaducts, culverts, and embankments were washed away; and, besides an interruption in the ordinary traffic, a large traffic in jute, which at the time of the inundations was at its height, was suddenly lost. Vigorous efforts were made by the agent and staff to arrest the destruction, and, when that ceased, to repair the damages. The passenger traffic was resumed in a few days, but the line was not fit for the goods traffic for about eight weeks. There was, consequently, a decrease in the revenue receipts, instead of the increase, which the large traffic in the early part of the year promised. The works of restoration, which include considerable modifications in the structure of the embankments and the additional provision of flood openings, are in a fair way towards completion.

70. The extension of this railway to Goalundo may be regarded as a success. A large river traffic is intercepted there, and much additional up-country produce is brought upon the line. If it had not been for the breakdown occasioned by the floods, the earnings would probably have shown a considerable increase over the previous year's.

71. As it was, the gross receipts amounted to 201,343*l.*, compared with 178,092*l.* of the previous year, and the net receipts 89,562*l.*, compared with 78,905*l.* The receipts per train mile were 9·31*s.*, and the expenses 5·17*s.*

GREAT SOUTHERN OF INDIA RAILWAY.

Length, 384 miles. Open 168 miles.

72. A commencement has at length been made with the extension of this line to Tuticorin. It has been decided to take it from Trichinopoly to Muniachee, and thence by branches to Tinnevelly and Tuticorin, a length of 216 miles. The plans

have been made upon the metre gauge, and the previous estimates have been reduced by about 650*l.* a mile, the present being under 4,000*l.* a mile.

73. The gross receipts from the open line were 71,343*l.*, compared with 70,962*l.* of 1870. The net receipts were 39,866*l.* and 42,646*l.* respectively.

74. The earnings per train mile were 5*s.* 9*d.*, and the cost 3*s.* 2*d.*

75. The proposed amalgamation of this railway with the Carnatic is under consideration.

OUDE AND ROHILKUND RAILWAY.

Length, 733. Open, 120.

76. No addition was made to this railway during the year 1871, but 78 miles have been opened since, including the sections from Lucknow towards Fyzabad, and from Lucknow towards Moradabad, and from Allyghur to Rajghat, towards Chumdosee. The works generally are progressing quickly towards completion. Bridges have yet to be finished over the Ganges, Saie, and Goomti. That at Cawnpore has been delayed by the necessity for sinking deeper foundations and larger wells than were at first proposed. The wells have now been sunk 60 feet below the low-water level. In the provinces of Oude and Benares the floods of last season proved the necessity for greater water way, which is accordingly being provided. In the opinion of the agent, General Beadle, the cost of the line will not exceed 10,000*l.* per mile, including the bridges, several of which are formidable works.

77. The expenditure up to the end of March last, was 3,400,000*l.* The gross earnings upon the 42 miles open was, last year, 25,614*l.*, and the net 17,754*l.*

CARNATIC RAILWAY.

Length, 100 miles. Open, 19 miles, on a 3′ 6$\frac{3}{4}$″ gauge.

78. The operations in connexion with this line have during the year been confined to working the short section open for traffic and to surveying and preparing the plans for its extension south to join the Great Southern. No decision has yet been passed upon the route, but it has been determined to construct it on the narrow gauge, and it is in contemplation to form with the line south of Trichinopoly, now in the hands of the Great Southern Company, one continuous metre gauge railway from Madras to Tuticorin. It has been proposed, indeed, as stated at page 6, to amalgamate the two undertakings, and to place them entirely under one joint management. The subject is now under consideration.

79. The gross receipts from the 19 miles open were 3,560*l.*, and the net 1,249*l.*

80. The following railways are being constructed by the Government without the intervention of companies :—

STATE RAILWAYS.

PUNJAB NORTHERN RAILWAY.

Length from Lahore to Peshawur, 270 miles.

81. The works on this line are at present confined to the section between Lahore and Jhelum, a length of 173 miles. Having been originally designed for the 5′ 6″ gauge, fresh plans and drawings had to be prepared when it was determined to adopt the new gauge of 3′ 3$\frac{3}{8}$″. This led to the suspension of operations for a time, but during the past year there has been much activity in pushing on the works, and considerable progress has been made. It is estimated approximately that the line will be constructed for 10,000*l.* a mile. The expenditure had amounted on the 31st December last to 660,868*l.* The bridges over the Ravee, Chenab, and Jhelum rivers are amongst the most formidable works yet undertaken in India, and will not be finished so soon as the rest of the line, but the sections between the rivers may possibly be opened this year.

NULHATEE RAILWAY.

Length, 27$\frac{1}{2}$ miles.

82. This line has become one of what are denominated "State" lines, Government having purchased it for 30,000*l.* from the Oude and Rohilkund Company. It was constructed by this company on a 4′ 0″ gauge, when, as the "Indian Branch"

Railway Company, they commenced establishing a system of light branch railways in connexion with the existing main lines.

83. Finding themselves unable to raise money without a guarantee they were obliged to limit the scheme to this short line and the branch from Cawnpore to Lucknow. When a contract for their present undertaking was made under a guarantee the Nulhatee line remained in their possession until sold as above mentioned. The line has been worked satisfactorily, and last year yielded a revenue of 4,421*l.*

RAJPOOTANA RAILWAY.

Length, 370 miles.

84. One division of this line commences at Agra, and proceeds by Bhurtpore and Jeypore to four miles east of Sambhur Lake, from whence salt will be transported by a branch line into British territory. Another division starts from Delhi and joins that from Agra at Khera, 85 miles from Agra. A contract has been made for the execution of the former section, including a bridge, suitable for ordinary as well as railway traffic, over the Jumna, at Agra, and it is estimated that the whole of these lines will be completed for 5,000*l.* per mile, including rolling stock.

INDUS VALLEY RAILWAY.

Length, 480 miles.

85. Starting from Moultan, it has been decided to take this line by Shoojabad (50 miles) and Bhawulpore (87 miles) on to Rohree (133 miles), the Sutlej being crossed by a bridge at Bhawulpore. The cost of the section to Bhawulpore, including the bridge, is estimated at 900,000*l.*, or 6,500*l.* per mile. The cost of that from Bhawulpore to Rohree is estimated at 800,000*l.*, or 6,000*l.* a mile. The southern portion of the line from Rohree to Kotree, which is 189 miles in length, is to proceed by the right bank of the Indus, which it crosses at Rohree. This section is estimated to cost 1,152,000*l.*, or about 5,180*l.* per mile. The examination of the country traversed by the northern division exposed the difficulties that will be caused by inundations, and has proved the necessity for the most careful consideration before deciding upon the designs. It has wisely been determined to make no attempt to dam the floods, but to provide the necessary outlets through the embankments. In 68 miles in the Rohree district provision will, it is calculated, have to be made for 70,000 square feet of bridge opening. As a precautionary measure the embankments, when thrown up, are to be exposed to the influence of the inundations for one season, before the culverts or bridge work is commenced. The earthworks in the Shoojabad and Bhawulpore divisions are nearly completed. The line is to be made upon the metre gauge.

INDORE or HOLKAR STATE RAILWAY.

Length, 86 miles.

86. This line starts from Khundwah, a station on the Great Indian Peninsula Railway 352 miles from Bombay, crosses the Nerbudda River two miles south of Barwaie, ascends the Vindhya range through the Choral Valley, and passes through Mhow to Indore. Its length will be about 86 miles. The works have been commenced under a contract, and are being pushed on vigorously. It is estimated that the line will cost about 900,000*l.* Maharajah Holkar has engaged to lend the British Government 1,000,000*l.*, at 4½ per cent. per annum, to carry out this line, it being understood that he will participate in half surplus profits over the 4½ per cent., if any, in proportion to the extent of his loan.

CARWAR AND HOOBLEE RAILWAY.

Length, 144 miles, to Gudduck.

87. Repeated surveys have been made of this line, and the difficulties, while still serious, are less than they were at first expected to be, but the question of its construction is still under consideration. The railway reaches the top of the Ghâts, at a level of 2,200 feet above the sea, by works extending over 24 miles, in the course of which one continuous incline, four miles in length, of 1 foot in 40 feet occurs. The estimated cost is 900,000*l.* The Bombay Government

considers that there is a fair prospect of a return of 8½ per cent. on this capital, if such a tariff is established as will give the best possible revenue, while it secures the whole of the existing export trade, the rates being fixed so as to be more favourable than cart rates but higher than ordinary railway rates.

HYDERABAD STATE RAILWAY.

88. Besides the line from Goolburga to Hyderabad, which is being constructed at the exclusive expense of the Nizam's Government on the 5 foot 6 inch gauge, and laid with rails formerly supplied for the extension of the Great Southern of India Railway, a further system of railways, in connexion with the Hyderabad territory, has been proposed by Mr. Johnson, C.E., Secretary to the Hyderabad Government. This system would include a narrow gauge line from Hyderabad, Secunderabad, and Warrungal in a north-easterly direction to the Chanda coal fields, to join the branch from the Great Indian Peninsula Railway below described; also a line from Warrungal in a south-easterly direction towards the coast at Masulapitam.

THE OOMRAWUTTEE AND KHANGAUM RAILWAYS.

Length, 5½ miles. Length, 7½ miles.

89. These are branches from the Great Indian Peninsula Railway, constructed out of the revenues of Berar, which province belongs to the Nizam, but is administered by the British Government in the Nizam's behalf, and are worked by the company possessing that line.

90. The receipts on the Khangaum last year were Rs. 4,117, and the charges Rs. 4,497.

91. The receipts on the Oomrawuttee were Rs. 7,910, and the charges Rs. 4,402.

THE WURDA VALLEY COAL RAILWAY.

92. The proposed line from Wurda, on the Nagpore branch of the Great Indian Peninsula Railway, to the Chandah coal fields has been sanctioned for a distance of 15 miles, to a place five miles short of Hingunghat, the route beyond depending upon the site of the best coal beds, and whether the line may not be made to fulfil the further object of accommodating a cotton mart. This will be a British line.

SUMMARY.

93. It now only remains for me to give a brief summary of what has been stated above.

94. Railways to the extent of 5,204½ miles are now open in India, of which 250 miles were completed during the year 1871 and 128 since. A further length of 2,438 miles is in course of construction, of which 1,503 are being executed under the direct orders of Government, without the intervention of companies. A fair start has thus been made with what, in contradistinction to the railways undertaken by the guaranteed companies, are termed the State lines, and considerable progress has been made with some of them during the past year.

95. The capital outlay on all the railways had, at the close of the official year 1871–72, reached 91,963,510*l.*, of which 1,953,888*l.* had been applied to State lines, and 2,704,451*l.* was expended last year. This is exclusive of the cost of land and Government supervision, interest, and the amount contributed by Government through the operation of the rate of exchange under the contracts. The capital held by proprietors, of whom there are about 61,000, consists of 80,972,386*l.* capital stock, 1,954,100*l.* of debentures convertible into shares, 5,473,100*l.* of inconvertible debentures terminable at certain periods, and 4,671,808*l.* of irredeemable debenture stock.

96. The net revenue last year was 2,844,000*l.* Assuming the amount which has been expended upon the lines carrying traffic to be 85,000,000*l.*, they yielded a return at the rate of about 3½ per cent. per annum: This left a deficiency below the 5 per cent. guaranteed interest paid by Government upon all the capital raised, including that for lines not yet finished, of about 1,500,000*l.* It must be borne in mind that the past year was a bad one for trade and consequently for traffic, and that a considerable portion of the present system has been open only for a few years and cannot be regarded as duly developed. It should also be noticed that while the traffic, taken as a whole, has been nearly stagnant

when compared with the previous year, most of the lines show an increase, and only two a falling off; and that when the average earnings of one five years are compared with another a steady progress is found to have taken place. The average mileage receipts, for instance, on the five principal lines have increased from 415*l.* for the five years ending 1866 to 651*l.* for the last five years. At the same time it must be confessed that expectations have been disappointed, and that every effort should be made to increase the traffic and to reduce the expenditure. The success which has already attended attempts in the direction of retrenchment may be judged by the fact that last year, on the East Indian Railway alone, the expenses were 145,000*l.* less than in the previous year. Last year the gross receipts amounted to 6,146,130*l.*, and the working and maintenance expenses to 3,302,050*l.*, or at the rate of 53·70 per cent. The amount received from passengers was 1,940,549*l.*, from goods 4,025,309*l.*, and the remainder from miscellaneous sources. Compared with the previous year the net revenue was 2,500*l.* less.

97. The number of passengers carried was 18,940,585, of whom 144,215 were first-class, 642,645 second, 523,740 intermediate, 14,113,436 third, and 3,516,549 fourth. Thus 93·02 per cent. consisted of the two lowest, 6·15 of the second and intermediate, and ·83 of the first class. The third and fourth classes contributed 1,405,225*l.* of the 1,941,978*l.* received from passengers.

98. The merchandise conveyed amounted to 2,529,479 tons, besides 284,524 tons of coal and 455,568 of other minerals. This was 444,000 tons less than the previous year. The number of train miles run was 14,080,064. The average receipt per train mile was 8·74*s.*, and the average expense 4·50*s.* The falling off may be accounted for in a great measure by the diminution in the quantity of railway materials conveyed, and by the absence of the necessity, which existed in the previous year, of carrying a large amount of grain to districts where scarcity prevailed.

99. Unprecedented rains occurred in different parts of the country during the year, producing disastrous effects upon some of the railways. The Punjab and Delhi, the Eastern Bengal, and the Bombay, Baroda, and Central Indian lines suffered the most damage. The cost of the necessary repairs and alterations on these lines will amount to at least 300,000*l.*

100. Materials have been sent out from this country for the railways during the year to the amount of 168,049 tons, of the value of 707,765*l.*, and at a cost for freight of 223,617*l.* Since the commencement of operations 4,361,297 tons of railway materials, the cost of which was 28,880,893*l.*, have been sent to India.

101. The return of accidents for the year bears a favorable comparison with former years. While in 1869 31 passengers were killed and 63 injured from causes beyond their control, and in 1870 four were killed and 92 injured, last year there was only one killed and eight injured; and the one fatal case was not caused by any accident to a train but by a fall on a platform through insufficient lighting.

102. A great deal has been said lately about the burthen thrown upon the Indian revenues by the railways, in consequence of their failure to earn the amount paid by Government for the guaranteed interest upon the capital. This result is no doubt greatly to be lamented, and is contrary to the expectations of those who advocated and sanctioned the existing system. But taking a broad view of the subject, these undertakings may claim, as a set-off against their shortcomings, credit for many direct and indirect benefits which they have produced. To say nothing of the moral and social improvements which, as civilising agents, they have conferred upon the country, there can be no doubt that railways have added to its security, have greatly advanced the material prosperity of the people, and have been the means of increasing the revenue and of saving much expenditure, both on account of the army and post office. They are still in their infancy, and their direct contributions to the revenue are capable of expansion. Experience has taught us lessons, and we have paid for them, but I venture to think that there is more ground of hope for the future than regret for the past. And as regards the present, difficulties and uncertainty should furnish a strong incentive to skilful administration and increased exertion.

I have the honour to be,
My Lord Duke,
Your Grace's very obedient humble servant,
JULAND DANVERS.

APPENDIX.

COMPARATIVE STATEMENT of AVERAGE RATES charged, WORK DONE, and COST of DOING IT on the principal INDIAN RAILWAYS, for the half year ending 31st December 1871, based on the half-yearly Reports of the Companies and the Government Returns, rupees being converted into sterling at 1*s.* 10*d.* per rupee.

It is assumed that a passenger train costs as much per mile run as a goods train.

"Sundry receipts" are not added to receipts for passengers and goods, but are deducted from working expenses. Instead, therefore, of swelling mileage receipts, they go in reduction of the mileage cost. This seems the fairest method of treating them. Many of this class of receipts, such as those for "rent," go directly to reduction of wages and, therefore, of working expenses.

Indian income tax not being a working charge is deducted from the working expenses as returned by the companies.

The mileage of the Madras line, which is principally mixed, is not divided in the returns to which I have access into passenger and goods trains. I have therefore made such a division as, taking all the information I can obtain, seems reasonable. The results will not be much affected by any error I am likely to have made.

The receipts for luggage, horses, carriages, mails, &c., vary from 7 to 12 per cent. of the receipts for passengers only. These receipts are treated as if from so many passengers, the number which they represent being obtained by dividing them by the average charge per mile for passengers proper. Receipts for live stock are similarly treated in goods traffic.

I should have included the Scinde and Punjab and Eastern Bengal railways in the list; but both lines have been injuriously affected by floods during the past half year. The results I may remark would apparently have been unsatisfactory, especially in the case of the Scinde. The other Indian lines are too fragmentary to allow of any conclusions being drawn from their present working.

PASSENGER TRAFFIC.

	East Indian.		G. I. P.	Madras.	Bombay and Baroda.
	Main Line.	Jubbulpore.			
Miles open	1281	223¾	1274	832	349½
(1.) Average receipts from each passenger train per mile.	*s. d.* 6 6½	*s. d.* 5 5	*s. d.* 5 9	*s.* 6	*s. d.* 9 0¾
(2.) Average charge for carrying a passenger (taking all classes together) one mile.	*d.* ·38	*d.* ·39	*d.* ·44	*d.* ·378	*d.* ·405
(3.) Average number in any passenger train, at any one time.	No. 206	No. 166	No. 157	No. 190	No. 268
(4.) Average cost of running a train one mile -	*s. d.* 3 8¼	*s. d.* 4 1	*s. d.* 5 7	*s. d.* 2 9½	*s. d.* 6 11
(5.) Average cost of carrying a passenger one mile.	*d.* ·215	*d.* ·295	*d.* ·427	*d.* ·176	*d.* ·31
(6.) Average profit on each passenger per mile	*d.* ·165	*d.* ·095	*d.* ·013	*d.* ·202	*d.* ·095
(7.) Average number of passenger trains running over each mile of line, *each* way per diem, (supposing all trains to be through trains.)	No. 2·14	No. 1·43	No. 1·7	No. 1·15	No. 1·5
(8.) Average number of passengers passing over each mile of line *both* ways, per diem.	No. 882	No. 472	No. 534	No. 437	No. 804

GOODS TRAFFIC.

	East Indian.		G. I. P.	Madras.	Bombay and Baroda.
	Main Line.	Jubbulpore.			
Miles open	1281	223¾	1274	832	349⅝
(1.) Average receipts from each goods train per mile.	*s. d.* 11 4	*s. d.* 6 6	*s. d.* 9 2	*s. d.* 6 1	*s. d.* 10 3
(2.) Average charge for carrying one ton of goods (taking all classes together) one mile.	*d.* 1·24	*d.* 1·15	*d.* 1·59	*d.* 1·45	*d.* 1·5
(3.) Average load in tons in any goods train at one time.	Tons. 109	Tons. 68	Tons. 69	Tons. 50	Tons. 82
(4.) Average cost of running a train one mile -	*s. d.* 3 8¼	*s. d.* 4 1	*s. d.* 5 7	*s. d.* 2 9½	*s. d.* 6 11
(5.) Average cost of carrying a ton of goods one mile.	*d.* ·406	*d.* ·72	*d.* ·97	*d.* ·67	*d.* 1·0
(6.) Average profit on each ton per mile -	*d.* ·834	*d.* ·43	*d.* ·62	*d.* ·78	*d.* ·5
(7.) Average number of goods trains running over each mile of line, *each* way per diem, (supposing all trains to be through trains.)	No. 2·66	No. 1·13	No. 2·52	No. 1·92	No. 1·54
(8.) Average number of tons passing over each mile of line *both* ways, per diem.	Tons. 580	Tons. 154	Tons. 349	Tons. 192	Tons. 252

The above statement is made possible by abstracts K. and I., now furnished to the Government half-yearly by the railway companies and published for the most part in their half-yearly reports. Some few assumptions have necessarily been made, but none of magnitude or involving the risk of serious error. A high average rate does not necessarily imply higher rates for the same classes of goods and passengers. It may result from a larger proportion being carried of passengers and goods charged at the higher rates.

The great variation in the cost of carriage on the different lines deserves serious attention. If one line can carry goods at four-tenths of a penny per ton per mile, it is clear that a penny ought not to be spent on the same work on another line. If one line can carry a passenger a mile for less than two-tenths of a penny, the cost on another ought not to be upwards of four-tenths of a penny. If one line runs its trains at 2*s.* 9½*d.* a mile, other lines ought not to spend from 3*s.* 8*d.* up to 6*s.* 11*d.* per mile.

The coal question affects the expenditure but slightly, and it is to be noticed that the mileage cost is lowest on the Madras, which is worse off in respect of fuel than any other line. The advantage which the East Indian Railway has over other lines in regard to coal may be gathered in some degree by a comparison of the working cost on the Jubbulpore and main line of the East Indian Railway.

It cannot be said that the cost of carriage must necessarily be less on the lines which have a comparatively large traffic, as, for instance, on the East Indian, than on those which have a small traffic, for it is to be observed that the line which is worked most cheaply is the Madras, which has the least traffic of any.

One principal cause of the high cost of working Indian lines evidently is the insufficient loading of the trains and the consequent unnecessary mileage run.

Taking the maximum freight of a train at 200 tons, the average freight, supposing the traffic all in one direction, would be 100 tons. But we know that the traffic is not all in one direction, and we might therefore reasonably expect the average freight to be somewhere between 100 and 200 tons, nearer, perhaps, the lower than the higher limit. On the East Indian the average is only 109 tons, a little above the lower limit, certainly too low, but nevertheless more than twice as much as the lowest average, and one third more than the highest average on other lines. An average of from 130 to 140 tons would not be too much to expect on all lines.

The passenger freightage is also much too low for lines which have their traffic entirely under their own control, and its variation shows that some lines at all events, if not all, must be working wastefully. It is to be noted that on the Great Indian Peninsula the profit on passenger traffic is practically *nil*, although its average rate is higher than that of any other line.

Apart from savings to be effected by the substitution of natives for Europeans in many employments, it would seem that the best hope of reducing the cost of carriage lies in the substitution to a very large extent of mixed trains for separate passenger and goods trains, because by this plan only can the train mileage be largely reduced without diminishing the necessary facilities for passenger traffic. The attention of the proper authorities cannot be too strongly directed just now to this subject. It is of importance not only because of the large direct saving which might be effected by reducing working expenses, but much more because the cost of carriage must govern the charge for it, and the traffic on Indian railways has so far fallen short very largely of the expectations formed of it. This might be attributed in great measure to the heavy rates charged. Taken at per mile they are, perhaps, not extreme, but the peculiarity of Indian traffic is the low value of the bulk of the goods offered and the great distances they are carried. From these two causes combined, the cost of carriage at present rates forms such an addition to the prime cost of the class of goods to which railways must look for the bulk of their business, such as seeds, rice, and grain, as either to exclude such goods altogether from commerce, or to compel them to resort to other means of reaching their destination when such other means exist.

It would seem not too much to expect that with judicious management the cost of transport might be reduced to an average on all lines of about one-third of a penny per ton per mile, in which case, assuming the quantity of goods offered for transport to increase largely, a charge not much exceeding the half of the present average of all lines would be sufficient.

What traffic such a reduction might bring upon the railways is, of course, a point on which great differences of opinion may exist, but there is no primâ facie reason why there should be found in India an exception to the general rule that low rates make traffic.

July 1872. A. M. RENDEL.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1872-73.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

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REPORT.

To His Grace the DUKE of ARGYLL, K.T., Secretary of State for India.

MY LORD DUKE, India Office, 1st July 1873.

I HAVE the honour to submit to your Grace the following Report on Railways in India for the year 1872–73. The revenue accounts and the statements relating to the traffic and working of the lines are made up to the end of 1872. The capital accounts are brought up to the 31st March 1873, so that the date may correspond with the end of the official financial year.

2. A length of 304¾ miles was added, during the year 1872, to the 5,079½ miles of line which were open for traffic at its commencement, and during the present year 127 miles more have been completed, so that the railway system now open in India extends over 5,511¼ miles. The greater portion of this new additional mileage belongs to the Oude and Rohilkund Railway, of which 354 miles have been opened since the 1st January 1872. Progress during 1872.

3. The following table furnishes particulars as to the length of each line sanctioned and the extent opened:—

	Railway.	Gauge.	Length of Line.	Length opened during 1872.	Length opened since Dec. 1872.	Total Length opened.	Portion laid with Double Line.	Length remaining to be finished.
Guaranteed.	East Indian - Main line	5′ 6″	1,260	—	—	1,280	414¾	—
	East Indian - Jubbulpore line		223¾	—	—	223¾	—	—
	Great Indian Peninsula	5′ 6″	1,278¼	12¾	—	1,278¼	287	—
	Madras	5′ 6″	857¾	—	3	835	—	22¾
	Bombay, Baroda, and Central India	5′ 6″	389½	40	—	389½	23	—
	Scinde, Punjab, and Delhi	5′ 6″	676	—	—	676	—	—
	Great Southern of India	5′ 6″	383¾	—	—	168	—	344¾
	Carnatic	5′ 6″	147¾	—	—	18¾		
	Eastern Bengal	5′ 6″	158½	—	—	156½	—	2
	Oude and Rohilkund	5′ 6″	695	252	102	396	—	299
	Nulhattee	4′ 0″	27½	—	—	27½	—	—
	Calcutta and South-eastern	5′ 6″	28	—	—	28	—	—
State.	Punjab Northern	3′ 3⅜″	329	—	—	—	—	329
	Indus Valley	3′ 3⅜″	493	—	—	—	—	493
	Rajpootana	3′ 3⅜″	396	—	—	—	—	396
	Indore to Khundwa (Holkar's)	3′ 3⅜″	86½	—	—	—	—	86½
	Patree branch of Bombay, Baroda, and Central India Railway	5′ 6″	22	—	22	22	—	—
	Wurda Valley	5′ 6″	15	—	—	—	—	15
	BERAR.							
	Khamgaon	5′ 6″	7⅓	—	—	7½	—	—
	Oomrawuttee	5′ 6″	5½	—	—	5½	—	—
	NIZAM'S GOVERNMENT.							
	Goolburga to Hyderabad	5′ 6″	121	—	—	—	—	121
	Total		7,621¼	304¾	127	5,511¼	724¾	2,109

4. The following statement shows the state of progress since the railways were commenced, and the length which was open at the end of each year from 1853 to 1872 :—

Railways.	Length of Line open at the end of each Year.																		
	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.
East Indian Railway (including Jubulpore)	—	37½	120½	120½	120½	141	234½	367½	560½	883½	937	1,105½	1,120½	1,120½	1,353½	1,353½	1,353½	1,353½	1,506½	1,506½
Great Indian Peninsula	21½	34½	50½	83½	83½	194½	245½	297½	437½	494½	553	585½	701½	815½	852	875½	875½	1,258½	1,265½	1,274½
Madras	—	—	—	65½	80½	95	95	136	297½	447	447	572	611	645	645	677½	707½	783	833	833
Bombay, Baroda, and Central India	—	—	—	—	—	—	—	35	132	185	185	305½	305½	305½	305½	305½	305½	310½	340½	389½
Scinde	—	—	—	—	—	—	—	—	105½	105½	105½	105½	105½	108½	108½	108½	108½	108½	108½	108½
Punjab	—	—	—	—	—	—	—	—	—	32	45	45	253	253	246	246	246	565½	565½	565½
Delhi	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	53	293½			
Great Southern of India	—	—	—	—	—	—	—	—	49	79	79	79	79	127	144	168	168	168	168	168
Eastern Bengal	—	—	—	—	—	—	—	—	—	110	110	110	110	110	113½	113½	113½	156½	156½	561
Oude and Rohilkund	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	42	42	42	42	294
Carnatic	—	—	—	—	—	—	—	—	—	—	—	—	18½	18½	18½	18½	18½	18½	18½	18½
Calcutta & South-eastern	—	—	—	—	—	—	—	—	—	15	28	28	28	28	28	28	28	28	28	28
Nulhattee	—	—	—	—	—	—	—	—	—	—	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½
Khamgaon	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7½	7½	7½
Oomrawuttee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5½	5½	5½
Total	21½	72	171	274½	289½	430½	624½	836½	1,581½	2,351½	2,516½	2,902½	3,368½	3,568	3,937½	4,017½	4,287½	4,833½	5,078½	5,383½

State lines.

5. Fair progress has been made with the works on the State lines, and during the present year between two and three hundred miles will probably be opened. The operations of the Oude and Rohilkund Company are being conducted with vigour, and it is expected that an additional length of 150 miles will be finished and opened before November next. The works on this line which give most trouble are the bridges, especially those over the Ganges at Cawnpore and at Rajghat, and over the Ramgunga at Bareilly. The importance of obtaining good foundations below where the scour can possibly reach them has been demonstrated by dearly bought experience. Hardly a season passes without

Bridges.

bridges breaking down and embankments being cut through by the streams they were respectively constructed to cross over and to check. During the floods of last year the Sutlej bridge on the Punjab Railway gave way, and on the Northern State line the unfinished works on the Jhelum and Ravee bridges were damaged. Several spans of the Damaungunga and Orunga bridges on the Bombay, Baroda, and Central India Railway, and the whole of the bridge over the Par river on the same line were also carried away in September last. The fact is that, when railways were first proposed for India, although a great many difficulties were started which on near approach disappeared, the great difficulty of crossing the rivers and of withstanding the force of the floods was not apparently sufficiently considered or estimated. The rivers of India, which rise in the various mountain ranges some thousands of miles from the sea, cut their way through soils of so soft and shifting a character, that in many places a new channel sometimes miles away from its original course is frequently* formed, and the old bed is left dry. It is hardly necessary to remark that the seasons in India have a very different effect upon the watercourses to that which we generally see in Europe. The rainfall is confined to certain months, and, in some places, to certain weeks and days, while the rest of the year is dry and hot. In many cases river beds which may be easily forded and even waded at one season become channels for wide and impetuous streams in another. It was, of course, a part of the engineer's duty to study this characteristic and to

* A curious instance of a change of channel occurred last year, when a notification appeared in the Calcutta Gazette, transferring 13 villages from one district to another, in consequence of the Ganges having so changed its course as to leave them on the south instead of the north bank. The process of erosion is thus described by the late Captain Wood in his "Journey to the Source of the Oxus :"— "When the waters of the Indus are low, the noise caused by the tumbling in of its banks occurs so "frequently as to become a characteristic of the river. During the silence of night the ear is assailed by "what at first might be mistaken for the continued discharge of artillery, two, three, and even four "reports are often heard within the minute, and even 13 have been counted in that short space of time."

provide against the danger. His investigations were, however, thwarted by imperfect data, and what, from recorded information and from observation, was considered to be the maximum volume of water that ever passed through a certain channel in the height of the floods has been frequently exceeded. MajorGeneral Beadle, who has just given up the post of agent to the Oude and Rohilkund Railway Company, writing very recently concerning the works on that line, points out that "in 1870 and 1871, the floods "were so excessive and so entirely unforseen, that the estimates submitted "and the project prepared had to be reconsidered and altogether superseded; "the bank had to be raised and the designs of bridges to be revised, increasing "largely the waterway." These floods fortunately occurred before the works were much advanced. This, however, has not been the case in other places. Disasters have accordingly occurred and much damage has been inflicted on several railway bridges. Now that more is known, more will be done to avert mischief; but after taking every precaution, there will always be considerable difficulty where shifting streams have to be encountered, and where foundations have to be laid in soil subject to a scour of 50 and 60 feet in depth. The only approach in Europe to this condition of things is in the northern plains of Italy, and last year we had an example of how human ingenuity and skill have been unable to cope with the streams which rush down from the Alps in the autumn and early winter.

Bridges on the Punjab Railway.

6. In consequence of the injury done to the bridges on the Punjab Railway, Mr. Leslie, the engineer who had earned distinction by his erection of the Goraie bridge in Bengal, was deputed to visit Lahore and confer with the company's chief engineer, Mr. Harrison, on the flood damage and the measures to be taken for avoiding similar disasters in future. These bridges consist of iron girders supported by brick piers or wells 12½ feet in diameter sunk to a minimum depth of 40 feet. On the 14th November last, Mr. Leslie, accompanied by Mr. Harrison, inspected those over the Sutlej, Jumna, and Beas rivers, and he again visited them in company with Colonel Rundall and Colonel Crofton of the Irrigation Department, and Mr. Molesworth, Consulting Engineer for State Railways. After obtaining information with regard to the character of the rivers, and the treacherous nature of the earth composing the foundation, and after ascertaining the depth of the scour which had taken place, he came to the following conclusions, which were those to which Mr. Harrison had also arrived, viz.:—

"1st. That the system of bridging, viz., iron girders carried on single wells with cylindrical piers above low-water level, is the most suitable style that can be adopted for these rivers.

"2nd. That the amount of waterway now given at the Jumna and the Sutlej, and which will be given at the Beas bridge, is sufficient to accommodate the maximum flood discharge, but not in excess of what is required.

"3rd. That the foundation is strong enough to sustain the normal pressure of the bridge, but is quite inadequate to sustain the increased strain to which it is liable to be subjected by the lateral pressure of the current upon the well when deep scour takes place, and that hitherto the damage which has occurred to the pier wells has been due to the yielding of the foundations.

"4th. That up to the present date none of the pier wells have actually been underscoured, but the scour has been very near the bottom; and had not the piers given way by the yielding of the foundation, and fallen down stream, it is possible the scour might have extended below the bottom, in which case it is probable they would have fallen against stream.

"5th. That the piers of all these bridges would be secure if the depth of the scour could be so limited as never to leave less than 25 feet of the well embedded in a material strong enough to sustain, without yielding, the lateral pressure caused by the force of the stream.

"6th. If this object can be secured the pressure at the base of the piers would be equally distributed over the foundation, and the worst that could happen would be a vertical settlement of the pier wells.

"7th. The system which is now being adopted by Mr. Harrison will, I believe, satisfactorily accomplish this object with more certainty and at a more moderate outlay than any other. It consists in excavating as much as possible of the river bed for a width of 20 feet all round the wells, and surrounding them with a layer or bank of large-sized rubble stone, which, by its weight and the action of the water, settles down vertically around the wells, and is not subject to be scoured out, leaving the well unsupported, as is the case with the loose silty deposit forming the natural bed of the river.

"8th. The quantity which it is proposed to deposit around each well in the first instance is from eight to twelve thousand cubic feet, according as the opportunity for depositing it is favourable, or otherwise, a quantity of stone being kept in reserve at each bridge to be thrown in around such piers as may be subjected to extraordinary scour during flood seasons."

The system thus described has been tested at the Jumna bridge since the damage done by the floods of 1871, and has been successful.

The gap made in the Sutlej bridge by last year's rains will be filled up by sinking three wells of 15 feet diameter 70 feet below low water, reducing the size above that level to 12½ feet, so as to correspond with the other piers. The new wells will also be protected by the loose stone bank. The same course will be adopted in regard to the new piers of the Beas bridge.

Mr. Leslie has strong faith in the efficacy of loose stone for the protection of foundations in these rivers. But, supposing that this plan could not have been applied for want of material, the alternative, in his opinion, would have been "to transfer the superstructure of these bridges to a new line of wells of 18 or 20 "feet diameter at the base, sunk 70 feet below low-water mark, and tapering "upwards to 13 at the low-water level, on the down stream side of the existing "bridge."

SHIPMENTS TO INDIA IN 1872.

7. During the past year 66,534 tons of goods exclusive of fuel, and of the value of 655,822*l.*, have been shipped to India for the purposes of the railways. Of these 18,949 tons were shipped by the Government, and 47,585 by the Railway Companies. One ship only met with any disaster, and she had on board railway material belonging to the Bombay, Baroda, and Central India Railway Company, valued at 493*l.* The freights appear to have been higher than usual, and this is in a great measure accounted for by the use of the Suez Canal route, in consequence of the number of urgent demands received from India for the immediate supply of materials. The quantities sent out were small, smaller than they have been in any previous year, but there is no reason why, as a rule, timely requisitions should not be made, so that the cheaper mode of sending goods by ship round the Cape may be adopted. This consideration should in future be borne in mind by those in India whose duty it is to prepare the indents. There were also sent out 116,223 tons of fuel, the cost of which, including the freight to India, amounted to 361,094*l.* The efforts which are now being made to ascertain what additional coal deposits are available for the railways in India, and the measures which have been taken for maintaining a supply of wood fuel, will, it is hoped, have the effect of reducing this large amount in future years.

SHIPPING OPERATIONS, exclusive of Fuel, during 1872 on Account of the Guaranteed and State Railways.

Railway.	Number of Ships employed in 1872.	Number of Tons of Goods shipped in 1872.	Value of Goods shipped in 1872.	Amount paid for Freight and Insurance in 1872.	Average Rate of Freight and Insurance per Ton.
		Tons.	£	£	£ s. d.
East Indian - - -	25	3,392	58,563	4,047	1 3 10
Great Indian Peninsula - -	31	6,032	48,215	9,975	1 13 0
Madras - - - -	48	17,853	91,381	21,281	1 3 10
Bombay, Baroda, and Central India	*21	723	15,801	1,652	2 5 8
Scinde, Punjab, and Delhi -	26	1,588	35,093	4,671	2 18 9
Great Southern of India - -	3	2,742	5,650	3,147	1 2 11
Eastern Bengal - - -	17	1,423	20,490	2,412	1 13 10
Oude and Rohilkund - -	55	13,825	176,738	9,165	0 15 11†
Carnatic - - - -	2	7	321	10	1 9 8
State Railways - - -	90	18,949	203,570	21,390	1 2 7
Total - - -	318	66,534	655,822	77,750	——

* In the case of this line the high average rate is explained by six sevenths of the goods having been sent by steamer viâ the Suez Canal.

† 2,307 tons delivered by the contractors in Calcutta. The amount of freight not being known is not included in the figures above given.

Amount and cost of fuel sent out from this Country during the year 1872.

Coal and fuel.

Railway Company.	No. of Tons.		Original Cost.		Cost of Freight and Insurance.	Average Cost per Ton in England.		Average Cost per Ton when used in India.	
	Coal.	Coke and Patent Fuel.	Coal.	Coke and Patent Fuel.		Coal.	Coke and Patent. Fuel.	Coal.	Coke and Patent Fuel.
			£	£	£	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Great Indian Peninsula -	77,718	C. 9,422	165,185	25,853	116,028	0 16 3	1 5 1	2 2 6	C. 2 14 11
Madras -	7,728	P.F. 7,227	3,970	5,568	16,509	0 10 3	0 15 4	1 16 5	P.f.1 19 3
Bombuy, Baroda, & Central India	11,226	C. 106	*22,252	237	of coke only 263	about 15 0	2 5 0	1 19 8	C. 4 15 1
Scinde, Punjab, and Delhi -	—	C. 98	—	109	218	—	1 2 2	—	C. 3 6 10
Great Southern of India - -	2,698	—	1,937	—	3,015	0 14 4	—	2 0 8	—
Totals -	99,370	C. 9,626 P.F. 7,227	193,294	31,767	136,033	—	—	—	—

* This price included freight, the delivery being made in Bombay.

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.	Number of Ships lost.	Number of Tons of Goods shipped.	Value of Goods shipped.
				£
Up to end of 1860 - - -	2,605	39	2,094,686	10,431,976
In 1861 - - - -	407	—	181,621	1,669,443
„ 1862 - - - -	280	1	138,013	1,487,582
„ 1863 - - - -	279	2	166,840	1,285,464
„ 1864 - - - -	233	—	102,318	1,018,164
„ 1865 - - - -	442	2	199,157	1,729,543
„ 1866 - - - -	581	7	312,227	2,527,757
„ 1867 - - - -	512	5	333,329	3,052,652
„ 1868 - - - -	364	3	188,858	1,849,554
„ 1869 - - - -	455	1	211,750	1,432,784
„ 1870 - - - -	461	1	263,449	1,688,209
„ 1871 - - - -	307	6	168,049	707,765
„ 1872 - - - -	318	1	66,534	655,822
Total - -	7,244	68	4,427,831	29,536,715

FUTURE EXTENSIONS.

Future extensions.

8. No new undertakings were sanctioned during the past year. In the present circumstances of railway enterprise in India, it is not surprising that the policy of Government in regard to future extensions should be marked by caution. So long as industrial works in India must be undertaken by Government, or, what amounts to the same thing so far as financial risk is concerned, by guaranteed companies, and so long as the result of the working of existing lines involves a contribution from the revenue of the country to make up the amount due for interest on the outlay, the Government is right in requiring proof, or the strongest evidence in support of the belief, that future railways, whether undertaken by Government or companies, will turn out to be remunerative in one shape or another. Indirect as well as direct gains of course enter into the calculation. The improvement of the material prosperity of the country is the end aimed at through all such works. But if the revenue of the country will not be increased, *directly*, by remunerative profits from the new lines themselves, or *indirectly*, by augmented receipts from existing lines, by saving the national expenditure or by improving the national resources, the Government naturally pauses before encouraging fresh works.

The commencement of the Carwar Railway is for these reasons postponed, and hesitation is being felt respecting other projected undertakings.

LEGISLATION.

9. The only legislative enactments in connexion with Indian Railways which have to be noticed are those Bills which are either receiving or are about to receive the consideration of Parliament. The object of one is to empower all

railway companies, which cannot do so already, to establish registers for shares in India, and thus to enable the stock of deceased shareholders *in India* to be transferred without the necessity (which now exists) of taking out letters of administration *in this country*. The other Bill relates to the amalgamation of the Great Southern and the Carnatic Railway Companies, which in future will be styled the South Indian Railway Company.* This amalgamation is just about to be effected. The old contracts between the Secretary of State in Council and the two Companies will be cancelled, and a new contract entered into with the amalgamated company embracing the principal terms and conditions of the former, and modifying others so as to suit the altered position of the two undertakings and to reconcile discrepancies.

PROPRIETORS OF RAILWAY SECURITIES IN 1872.

10. The total number of proprietors of Indian Railway securities on the 31st December 1872 was 61,940, being 626 more than the previous year. Of these, 56,127 consist of shareholders registered in England, and 842 registered in India, 388 of the latter being natives. The remaining 4,971 are holders of debentures and of debenture stock. The total amount of capital issued at the same date was 93,729,218*l.*, of which only 1,276,624*l.* had been subscribed in India. The number of shareholders residing in India has remained almost stationary for the last ten years. It has been thought by some persons that the necessity above referred to which has hitherto existed for taking out letters of administration in this country in order to realise the shares of a deceased holder may have been a discouragement to residents in India to hold shares.

Railway.	Number of Shareholders on 31st December 1872.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1872.
	Registered in England.			In India.					
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.	Bond.	Stock.	
East Indian - - -	6,892	8,223	15,115	156	151	307	982	851	17,255
Great Indian Peninsula	5,401	7,527	12,928	115	113	228	687	1,400	15,243
Madras - - -	3,003	4,200	7,203	—	—	—	207	—	7,410
Bombay, Baroda, and Central India -	2,214	3,849	6,063	9	60	69	394	—	6,526
Scinde, Punjab, and Delhi - - -	3,290	5,202	8,492	75	13	88	—	—	8,580
Great Southern of India	661	908	1,569	—	—	—	28	98	1,695
Eastern Bengal - -	669	979	1,648	29	18	47	173	121	1,989
Oude and Rohilkund -	989	1,372	2,361	70	33	103	30	—	2,494
Carnatic - -	232	516	748	—	—	—	—	—	748
Total - -	23,351	32,776	56,127	454	388	842	2,501	2,470	61,940

PERSONS EMPLOYED ON THE RAILWAYS.

11. According to the following table, it would appear that on the 1st October 1872, the number of persons employed on the open lines of railway in India was 56,804, and in the Indus Flotilla 1,018, making 57,822 in all. Of these, 53,369 were natives and 4,453 Europeans and East Indians. There are, however, certain figures in the return which cannot easily be reconciled with what are known to be facts from other sources. On the Scinde, Punjab, and Delhi Railway, for instance, where considerable reductions have been going on during the year, the number given is 6,264 in excess of the previous year.

12. According to the casualty return, 90 Europeans and 22 East Indians died during the year, and 980 Europeans and 466 East Indians were discharged or dismissed.

13. The employment of natives and Eurasians as mechanics is every year carried out to a greater extent. They are trained as fitters, erectors, boiler smiths, &c., and also as drivers. On the Great Indian Peninsula Railway the Parsee drivers are pronounced to be as good as Europeans.

* Since this was written it has been found necessary to withdraw the Bill, as, owing to unexpected delays and the consequent lateness of the period at which it was introduced, time did not admit of its passing this session.

(8888.)

B

ABSTRACT RETURN of Persons employed on the several open Lines of Railway in India, and on the Indus Steam Flotilla, on the 30th September 1872.

Railways.	Agent's Department, including Medical and Barrack Departments.			Account Department.			Audit Department.			Printing and Stationery Department.			Stores Department.			Traffic Department, including Steam Ferry.			Engineer's Department.			Carriage and Waggon Department.			Locomotive Department.			Telegraph Department.			Grand Total.			No. of Miles open.	No. of Stations.
	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.	Europeans and East Indians.	Natives.	Total.		
East Indian	23	178	201	—	—	—	30a	510a	540a	6	236	242	24	579	603	462	4,311	4,773	97	7,782	7,879	126	2,905	3,031	572	2,511	3,083	48	1,144	1,192	1,388	20,165	21,553	1,503¾	150*
Eastern Bengal	7	52	59	3	86	89	1	26	27	—	22	22	2	10	12	1015	1,442b	1,5136	48	2,456	2,504	6	315	321	59	528	587	5	147	152	232	5,084	5,316	156½	32
Calcutta & South-Eastern (State).	2	3	5	—	—	—	—	5c	5	—	1	1	—	1	1	2	48	50	2	136	138	—	—	—	3	21	24	—	4	4	9	210	228	28	8
Nullhatee State	—	—	—	—	—	—	—	5c	5	—	—	—	—	—	—	—	39	39	—	77	77	—	16	16	1	40	41	—	2	2	1	179	180	27	6
Oude and Rohilkund	20	43	63	2	30	32	—	13	13	12	49	61	—	—	—	9	199d	208d	16	236	252	—	—	—	51	493	544	2	24	26	112	1,087	1,199	153½	20
Punjab and Delhi	16	34	50	—	—	—	61e	201e	262e	—	—	—	—	—	—	131f	1,209f	1,340f	30	3,394	3,424	—	—	—	135	2,490	2,625	g	g	g	393	7,328	7,721	567	49*
Sindh	—	—	—	—	—	—	12e	152e	164e	—	—	—	—	—	—	30f	137f	167f	8	527	535	—	—	—	49	452	501	g	g	g	99	1,268	1,367	106	8
Great Indian Peninsula	50h	260h	310h	—	—	—	—	—	—	—	—	—	15	128	143	474f	3,457f	3,931f	141	1,368	1,509	—	—	—	148	17	165	g	g	g	828	5,230	6,058	1,266½†	133
Bombay, Baroda, and Central India.	26h	117h	143h	—	—	—	—	—	—	—	—	—	8	20	28	77f	1,086f	1,163f	40	111	151	—	—	—	186	1,123	1,309	g	g	g	337	2,457	2,794	389½	66
Madras	21	38	59	—	—	—	14c	202c	216c	—	—	—	7	61	68	208	1,723	1,931	97	3,727	3,824	—	—	—	303	2,056	2,454	61	126	187	806	7,933	8,739	832	79
Great Southern of India	19	109	128	—	—	—	—	—	—	—	—	—	—	—	—	18	236	254	70	735	805	—	—	—	71	317	388	—	—	—	178	1,397	1,575	168	22
Carnatic	4	12	16	—	—	—	—	—	—	—	—	—	—	3	3	—	16	16	—	29	29	—	—	—	2	8	10	—	—	—	6	68	74	19	4
Indus Flotill	—	—	—	—	—	—	—	—	—	—	—	—	1	29	30	44	615	659	19	310	329	—	—	—	—	—	—	—	—	—	64	954	1,018	—	—

a Audit Account and Cash.
b There are 21 Europeans and East Indians and 385 Natives employed in the Steam Boat Department.
c Audits and Account.
d Includes four persons employed in the Ticket Printing Department.
e Audit, Account, Stores and Printing and Stationery.
f Traffic and Telegraph.
g Included in the Traffic Department.
h Includes Account, Audit and Printing, and Stationery.
* Including two temporary stations.
† This is exclusive of the Khangaon and Oomraotee Branches, 14 miles worked, but not maintained by the Great Indian Peninsula Railway.

N.B.—Where the employés of the Carriage and Waggon Department are not shown separately they are understood to be included with those of the Locomotive Department.
The Departments of the Indus Flotilla do not correspond with those of the Railways, and are therefore shown separately.
The figures in the Returns for the Great Indian Peninsula and Bombay, Baroda, and Central India Railways differ considerably from the figures given in the Return for 1871, owing to a change made in the method of reckoning the numbers employed.

9

GENERAL ABSTRACT of Casualties whether by Death, Resignation and Discharge, or Dismissal amongst the European and East Indian employés on Railways in India during the year ending 31st December 1872.

Railways.	Casualties in														Total Casualties of all kinds.		Total Casualties by Death.		Average Number of Servants.								Length in Miles.	
	General Department.		Traffic Department.		Locomotive Department.		Carriage and Waggon Department.		Engineer's Department.		Electric Telegraph Department.		Stores Department.						Traffic.		Locomotive.		All other Departments.		Total.			
	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Europeans.	East Indians.	Open.	Under Construction.
Madras - -	1	5	4	32	30	14	—	—	6	10	—	3	2	2	43	66	7	6	8	53	137	243	52	115	197	411	332	26
Great Southern of India.	—	1	—	7	9	1	—	—	4	8	1	—	—	—	14	17	1	—	1	17	34	28	35	55	70	100	168	215
Carnatic - -	—	—	—	—	—	—	—	—	—	2	—	—*	—	—	—	2	—	1	—	—	1	1	11	9	12	10	19	—
Total, Madras -	1	6	4	39	39	15	—	—	10	20	1	3	2	2	57	85	8	7	9	70	172	272	98	179	279	521	1,019	241
Great Indian Peninsula.	1	—	87	35	146	20	—	—	32	18	—	—	1	1	267	74	24	4	319	175	523	87	136	44	978	306	1,266*	—
Bombay, Baroda, and Central India.	—	—	1	10	32	36	—	—	11	2	—	—	—	—	44	48	8	1	19	49	86	121	63	12	168	182	374	17
Total, Bombay	1	—	88	45	178	56	—	—	43	20	—	—	1	1	311	122	32	5	338	224	609	208	199	56	1,146	488	1,640	17
East Indian - -	2	5	100	42	166	32	11	12	18	2	1	10	3	5	301	108	28	7	323	139	619	165	216	137	1,158	441	1,503¾	—
Eastern Bengal -	3	—	40	28	16	2	—	—	17	10	—	1	1	—	77	36	5	2	53	27	78	13	49	22	180	62	156½	—
Calcutta and South-Eastern (State).	—	—	2	—	—	1	—	—	—	—	—	—	—	—	2	1	1	—	2	—	—	5	1	1	3	6	28	—
Nulhatee (State) -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	27	—
Oudh and Rohilkhund.	6	6	—	—	8	3	—	—	56	23	—	—	4	—	74	32	6	—	9	3	33	20	126	71	168	94	145	449
Punjab and Delhi -	21	5	28	38	65	15	—	—	30	5	—	—	—	—	144	63	9	—	61	62	150	27	51	10	262	99	567†	—
Sindh - -	—	—	2	5	5	10	—	—	—	8	—	—	—	—	7	18	—	1	9	24	20	29	6	6	35	59	106	—
Indus Steam Flotilla	—	—	2	1	5	—	—	—	—	—	—	—	—	—	7	1	1	—	20	12	29	12	—	—	49	24	—	—
Total, Bengal -	32	16	174	109	265	63	11	12	121	43	1	11	8	5	612	259	50	10	477	267	930	271	449	247	1,856	785	2,533½	449
Total, India -	34	22	266	198	482	134	11	12	174	83	2	14	11	8	980	466	90	22	824	561	1,711	751	746	482	3,281	1,794	5,192¼	707

* Exclusive of the Khamgaon and Oomraotee Branches (13 miles), which are also worked by the Great Indian Peninsula Railway Company.
† Including the break of two miles at the Sutlej and the distance between Ghazeeabad and Delhi, 13 miles.

ACCIDENTS.

14. In the "observations" signed by Colonel H. Drummond, R.E., the officiating Deputy Secretary to the Government of India, in the Railway Department, which accompanied the following returns of accidents for the year 1872, it is stated that the rules for preparing these statements "are either not sufficiently understood, "or are not sufficiently precise, and that it will therefore be unsafe to found any "comparison upon the results exhibited." A great many trivial accidents appear to have been included in last year's returns which were not in 1871, and this explains how it is that the total number has swelled from 548 to 1,153. Of these, 655 happened to trains from the causes described in the following table. The rest were not connected with trains.

—	East Indian Railway.	Eastern Bengal Railway.	Calcutta and South-Eastern Railway.	Nulhatee Railway.	Oudh and Rohilkhund Railway.	Punjab and Delhi Railway.	Scinde Railway.	Madras Railway.	Great Southern of India Railway.	Carnatic Railway.	Great Indian Peninsula Railway.	Bombay, Baroda, and Central Indian Railway.	TOTAL.
Collisions	31	3	—	—	1	12	—	3	—	—	10	4	64
Getting off line	30	—	1	—	2	6	1	2	1	—	19	12	74
Fire	14	—	—	—	4	63	8	4	—	—	8	—	101
Running over cattle	114	1	—	1	4	5	9	42	—	—	66	25	267
Other causes	73	4	—	1	—	7	31	5	1	1	26	—	149
Total	262	8	1	2	11	93	49	56	2	1	129	41	655

15. The heading "other causes" includes defects in rolling stock, obstructions maliciously placed on the line (of which there were 30 cases), carelessness of workmen on the way and works, delays by gatemen in opening gates, slipping of embankments, &c.

16. The observations above referred to by Colonel Drummond conclude thus:

"The numbers of accidents to passengers in 1872, compare as follows with those in the three preceding years:—

	Killed.	Injured.
1869	48	92
1870	13	63
1871	9	29
1872	9	58

"These figures, however, are still inconclusive, as bearing no relationship to the number of passengers carried. The following table shows the number of passengers killed and injured per million of passenger journeys for 10 years:—

Year.	Number per Million carried of Passengers killed and injured from	
	Causes beyond their own Control.	Their own Misconduct or Incaution.
1863	2·61	0·74
1864	3·77	0·85
1865	3·64	1·37
1866	0·84	0·61
1867	3·10	1·22
1868	3·58	1·90
1869	6·66	1·81
1870	2·53	1·65
1871	0·47	1·53
1872	1·9	1·4

"These figures are fairly satisfactory. In the United Kingdom in 1871 (the latest year, for which a Return has been prepared), 857 passengers, or 2·28 per million, were killed or injured, from causes beyond their own control, against 38 or 1·9 per million in India. In these 38, there is only one case of death, which

occurred on the Madras Railway, in an accident partly caused by a storm; and of the remaining 37, many injuries seem to have been of a trifling character.

Accidents to Railway Servants.

"In the following table are exhibited the actual numbers of casualties to railway servants in the several years since 1863 :—

Year.	No. killed and injured			Train-mileage.	Reported number of Servants employed.
	From causes beyond their own control.	From their own Misconduct or want of Caution.	Total.		
1863 ...	16	102	118	?	?
1864 ...	20	127	147	?	?
1865 ...	57	136	193	9,400,823	49,398
1866 ...	48	152	200	11,073,968	54,034
1867 ...	33	213	246	11,766,389	69,796
1868 ...	60	239	299	11,431,656	68,398
1869 ...	42	213	255	13,703,381	104,558*
1870 ...	33	214	247	15,502,339	76,013
1871 ...	24	222	246	13,844,840	74,650
1872 ...	47	214	261	14,525,990	80,258

* This is probably incorrect.

"The 261 casualties comprise 108 deaths and 153 injuries. One servant in 743 was killed, and one in 524 injured. In 1871, there were 84 deaths and 162 injuries. The accidents are mostly attributed to misconduct or want of caution, 96 deaths out of 108, and 118 injuries out of 153, being so classified in 1872. But it is not the less deplorable that such loss of life should occur, and the very earnest attention of the officers of all railway companies is invited to this subject.

"In one of the tables attached to this resolution will be found a complete analysis of these accidents. It is there shown that 23 deaths and 35 injuries arose from attempts to get on or off, or falls from, carriages in motion. It is, perhaps, impossible to stop this practice entirely, but it deserves consideration whether it could not be checked. The railway companies can hardly make an incautious man careful, but the fact that 39 men were killed and 24 injured from incautiously standing or walking on the line, makes it imperative that every possible step should be taken to reduce this annual record of loss.

Deaths in Trains or at Stations.

"At the end of the Returns will be found a detailed schedule of all casualties unconnected with the working of trains. There were in all 149 deaths in carriages and at stations during the year 1872, of which 102 occurred on the East Indian Railway, 27 on the Great Indian Peninsula, 10 on the Punjab and Delhi, four on the Madras, three on the Bombay, Baroda, and Central India, two on the Oudh and Rohilkund, and one on the Eastern Bengal Railway. In most of these cases it seems that the deceased were too ill to travel by rail, and none of the deaths reported appear to require further notice, as each case was inquired into at the time of its occurrence."

TABLE No. I.

ABSTRACT of the NUMBER and NATURE of the ACCIDENTS and of the INJURIES to LIFE and LIMB which have occurred on all Railways open for Traffic in India during the year 1872.

Presidency.	Mean Mileage open.	Railways.		Classification of Accidents to Trains, &c. — Main Heads. I. Collisions.	II. Getting off proper Line.	III. Fire.	IV. Running over Cattle.	V. Other Causes.	Total.	Passengers. From Causes beyond their own Control. Killed.	Injured.	From their own Misconduct or want of Caution. Killed.	Injured.	Servants of Companies or of Contractors. From Causes beyond their own Control. Killed.	Injured.	From their own Misconduct or want of Caution. Killed.	Injured.	Others. Whilst crossing at Level Crossings. Killed.	Injured.	Whilst trespassing (including Suicide). Killed.	Injured.	Miscellaneous. Killed.	Injured.	Total Persons of all Classes. Killed.	Injured.	Killed and Injured.
Bengal	1,503¾	East Indian	1872	111	233	15	128	204	691	—	15	3	16	4	11	30	36	1	—	46	6	5	1	89	85	174
	1,503		1871	13	10	5	117	6	151	—	8	5	14	1	10	36	50	3	—	46	5	4	—	95	87	182
	156¾	Eastern Bengal	1872	3	—	—	1	4	8	—	—	—	1	1	1	2	7	—	—	3	—	1	—	7	9	16
	156¾		1871	—	2	—	—	—	2	—	—	—	1	—	—	2	2	—	—	4	—	—	—	6	3	9
	28	Calcutta and South-eastern.	1872	—	1	—	4	—	5	—	2	—	—	—	—	1	1	—	—	1	—	—	—	2	3	5
	28		1871	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27	Nulhattee	1872	—	—	—	1	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27		1871	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	1
	145	Oude and Rohilkund	1872	1	10	4	6	5	26	—	—	—	—	1	2	1	5	—	—	1	—	—	—	—	7	10
	42		1871	—	1	2	—	1	4	—	—	—	—	—	—	—	1	—	—	1	—	—	—	1	1	2
	554	Punjab and Delhi	1872	16	14	63	6	15	114	—	2	4	1	4	3	12	16	—	—	7	—	4	—	11	22	53
	554		1871	2	18	54	4	9	87	1	—	2	1	1	1	7	8	—	—	4	—	—	—	15	10	25
	106	Scinde	1872	—	1	8	9	31	49	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	1	1
	106		1871	—	1	5	23	22	51	—	—	—	1	—	2	2	—	—	—	—	—	—	—	2	3	5
Madras	832	Madras	1872	4	4	4	42	6	60	1	8	—	—	—	2	9	4	—	—	4	2	1	—	15	16	31
	825		1871	3	1	1	62	1	68	—	—	—	2	—	—	8	11	4	—	3	1	—	—	15	14	29
	168	Great Southern of India.	1872	1	1	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	1
	168		1871	—	1	—	—	—	1	—	—	—	—	—	—	1	1	—	—	—	—	—	—	1	1	2
	19	Carnatic	1872	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19		1871	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bombay	1,266	Great Indian Peninsula	1872	14	23	11	72	30	150	—	10	1	2	—	13	24	44	—	—	11	3	2	—	38	72	110
	1,269		1871	15	31	9	79	12	146	—	—	—	2	—	2	19	57	2	—	10	4	1	—	32	65	97
	374	Bombay, Baroda, and Central India.	1872	4	13	—	27	—	44	—	—	—	1	2	3	17	4	1	—	5	—	1	—	26	8	34
	323		1871	1	5	—	28	2	36	—	—	—	—	1	6	6	11	—	—	2	3	—	—	9	20	29
India	5,179¼	- - -	1872	154	300	105	296	298	1,153	1	37	8	21	12	35	96	118	2	—	78	12	14	1	211	224	435
	5,020½		1871	35	70	76	314	53	548	1	8	8	21	3	21	81	141	9	—	70	13	5	—	177	204	381

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TABLE No. II.—NUMERICAL ABSTRACT of ACCIDENTS OF all Classes on all Railways open for Traffic in India during the Year 1872.

	BENGAL, NORTH-WESTERN PROVINCES, OUDE, AND PUNJAB.														MADRAS.						BOMBAY.				Total.		
	East Indian.		Eastern Bengal.		Calcutta and South-Eastern.		Nulhattee.		Oude and Rohilkund.		Punjab and Delhi.		Scinde.		Madras.		Great Southern of India.		Carnatic.		Great Indian Peninsula.		Bombay, Baroda, & Central India.				
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed & Injured.
PASSENGERS.																											
From causes beyond their own control, *viz.* :—																											
From accidents to trains	—	14	—	—	—	2	—	—	—	—	—	2	—	—	1	8	—	—	—	—	—	10	—	—	1	36	37
From other causes	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Total	—	15	—	—	—	2	—	—	—	—	—	2	—	—	1	8	—	—	—	—	—	10	—	—	1	37	38
Per million of passengers	—	2·59	—	—	—	5·89	—	—	—	—	—	1·03	—	—	0·40	3·21	—	—	—	—	—	3·01	—	—	0·05	1·8	1·9
From their own misconduct or incaution	3	16	—	1	—	—	—	—	—	—	4	1	—	—	—	—	—	—	—	—	1	2	—	1	8	21	29
Per million of passengers	0·52	2·77	—	0·60	—	—	—	—	—	—	2·07	0·52	—	—	—	—	—	—	—	—	0·30	0·60	—	0·34	0·4	1·0	1·4
Total from all causes	3	31	—	1	—	2	—	—	—	—	4	3	—	—	1	8	—	—	—	—	1	12	—	1	9	58	67
SERVANTS OF COMPANIES OR OF CONTRACTORS.																											
From causes beyond their own control	4	11	1	1	—	—	—	—	1	2	4	3	—	—	—	2	—	—	—	—	—	13	2	3	12	35	47
From their own misconduct or incaution	30	36	2	7	1	1	—	—	1	5	12	16	—	—	9	4	—	1	—	—	24	44	17	4	96	118	214
Total from all causes	34	47	3	8	1	1	—	—	2	7	16	19	—	—	9	6	—	1	—	—	24	57	19	7	108	153	261
OTHER PERSONS.																											
Crossing at level crossings	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	2	—	2
Trespassers, including suicide	46	6	3	—	1	—	—	—	1	—	7	—	—	1	4	2	—	—	—	—	11	3	5	—	78	12	90
Miscellaneous	5	1	1	—	—	—	—	—	—	—	4	—	—	—	1	—	—	—	—	—	2	—	1	—	14	1	15
Total from all causes	52	7	4	—	1	—	—	—	1	—	11	—	—	1	5	2	—	—	—	—	13	3	7	—	94	13	107
Grand total of all classes from all causes	89	85	7	9	2	3	—	—	3	7	31	22	—	1	15	16	—	1	—	—	38	72	26	8	211	224	435
Mean length of railway open during the year (miles)	1,503¾		156½		28		27		145		554		106		832		168		19		1,266		374		5,179¼		
Number of passengers carried	5,771,879		1,657,101		339,597		53,542		649,894		1,935,418		73,385		2,495,454		1,024,276		91,166		3,326,825		2,972,939		20,391,476		
Train mileage (goods and passengers)	5,701,255		518,817		34,278		16,095		110,763		1,159,509		137,054		1,738,770		244,718		14,288		4,023,012		827,431		14,525,990		

TABLE No. III.

Showing the TOTAL NUMBER of ACCIDENTS to PERSONS of all kinds, and to TRAINS, &c., on all RAILWAYS open for TRAFFIC in each Presidency of India, during the Year 1872.

Presidencies.		Mean Length of Railway open.	Total Number of Train Miles.	Train Miles per Mile open.	Total Number of Accidents to Trains, &c., of all kinds.	Total Number of Passengers carried.	Average Number of Passengers per Mile opened.	Passengers.		Servants.				Trespassers, &c.		Total.		
								Killed.	Injured.	Beyond their own Control.		Within their own Control.		Killed.	Injured.	Killed.	Injured.	Killed and Injured.
										Killed.	Injured.	Killed.	Injured.					
Bengal	1872	2,520¼	7,677,771	3,046	895	10,480,816	4,159	7	37	10	17	46	65	69	8	132	127	259
	1871	2,416⅓	6,811,043	2,819	296	9,714,494	4,020	9	25	2	13	47	61	62	5	120	104	224
Madras	1872	1,019	1,997,776	1,961	64	3,610,896	3,544	1	8	—	2	9	5	5	2	15	17	32
	1871	1,012	1,969,294	1,946	70	3,189,156	3,151	—	2	—	—	9	12	7	1	16	15	31
Bombay	1872	1,640	4,850,443	2,958	194	6,299,764	3,841	1	13	2	16	41	48	20	3	64	80	144
	1871	1,592	5,064,503	3,181	182	6,073,294	3,815	—	2	1	8	25	68	15	7	41	85	126
India	1872	5,179¼	14,525,990	2,805	1,153	20,391,476	3,937	9	58	12	35	96	118	94	13	211	224	435
	1871	5,020½	13,844,840	2,758	548	18,976,944	3,780	9	29	3	21	81	141	84	13	177	204	381

CAPITAL EXPENDITURE.

Guaranteed capital.

17. The total amount of capital which, on the 31st March last, had been advanced for expenditure on the guaranteed railways was 91,686,025*l.*, of which 1,556,440*l.* was expended during the past official year. The outlay in England for stores and materials was 822,994*l.*; in India, for construction purposes, 679,446*l.* A sum of 586,100*l.* was taken from the balances at the credit of certain companies for paying off debentures.

18. A sum of 93,735,924*l.* had been raised by the companies up to the 31st March, consisting of—

	£
Share Capital at 5 per cent.	79,983,494
Do. do. 4¾ „	1,349,970
Do. do. 4½ „	500,000
Debentures 5 „	3,171,550
Do. do. 4½ „	1,707,450
Do. do. 4¼ „	1,302,550
Do. do. 4 „	440,000
Debenture Stock 4½ „	1,925,000
Do. do. 4 „ *3,086,013	2,825,589
Money not bearing Interest	530,321
	93,735,924

Expenditure on State lines.

19. The expenditure on the State lines is brought down only to the 31st December 1872. It had then amounted to 3,492,323*l.*, of which 708,827*l.* had been expended in England. A sum of 3,371,218*l.* had been advanced or appropriated to the various undertakings, leaving 121,105*l.* out of the amount expended in this country on stores, &c. to be appropriated in India.

20. The amount appropriated to the State lines during the year 1872 was 1,558,836*l.*

21. The whole capital expenditure on railways in India thus accounted for (which is exclusive of the land for the guaranteed lines, and the loss of exchange borne by Government) is in round numbers 94,500,000*l.*

22. The following statement shows approximately how the expenditure has been applied :—

Distribution of Capital expended.

Railway Company.	Works and Bridges.	Permanent Way and Stations.	Freight and Insurance.	Rolling Stock and Engines.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian	9,630,000	7,195,000	3,005,000	3,485,000	3,735,000	3,600,000
Great Indian Peninsula	9,400,000	7,430,000	—	2,814,000	1,602,000	1,723,000
Madras	3,370,000	3,825,000	—	1,081,000	872,000	441,000
Bombay, Baroda and Central India	3,161,000	2,037,000	—	1,072,000	761,000	558,000
Scinde, Punjab, and Delhi	2,016,417	3,407,820	—	1,888,320 Steamers and Barges, 377,863 Workshops, 45,504 } 1,020,600		777,480
Great Southern of India	514,000	445,000	—	102,000	213,000	202,000
Eastern Bengal	—	2,021,385	—	314,000	323,000	213,000
Oude and Rohilkund	814,500	1,659,000	—	357,000	382,000	708,000
Carnatic	6,100	31,600	—	13,700	23,000	17,000

* This was issued at an average discount of about 8½ per cent.

23. It should be added that it is estimated that nearly 5,000,000*l.* of capital has been expended upon stores, a great portion of which will be paid back out of revenue, as they are used for purposes of maintaining and of working the railways. Amount paid for stores in hand.

24. The following gives approximately the amount locked up in stores by the several companies :—

	£
East Indian	1,190,000
Great Indian Peninsula	1,478,000
Madras	389,000
Bombay, Baroda, and Central India	486,000
Scinde, Punjab, and Delhi	596,000
Eastern Bengal	120,000
Great Southern	121,000
Oude and Rohilkund	511,000
Carnatic	5,000
	4,896,000

25. The following tables prepared in the Accountant's Department of this office furnish full particulars of the capital expenditure both in this country and in India :—

Statement No. 1.

Statement of Expenditure in England and India on Indian State Railways, appropriated to the various undertakings as shown in Statements to 31st December 1872, received from India.

State Railway.	Expenditure Appropriated.			Classification of Expenditure.											
	England.	India.	Total.	Preliminary Expenses.	Land.	Construction of Line.	Ballast and Permanent Way.	Stations and Buildings.	Electric Telegraph.	Plant.	Rolling Stock.	Maintenance.	Establishment.	Contingencies.	Suspense Accounts.
State Railways—Extraordinary.	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Punjab, Northern	190,147	827,448	1,017,595	23,868	8,200	250,874	34,632	27,043	—	78,455	1,386	—	187,927	7,294	397,916
Indus Valley	2,424	236,498	238,922	58,503	1,343	42,049	3,493	14,508	—	8,404	—	—	82,393	4,974	23,255
Hooblee and Carwar	—	41,120	41,120	10,498	—	—	—	—	—	—	—	—	30,113	509	—
Wurdah Valley	389	79,331	79,720	7,214	12	10,173	12,141	804	—	75	—	—	2,999	134	46,168
Holkar	14,005	110,525	124,530	3,251	361	45,386	1,877	4,941	—	954	—	—	38,502	2,670	26,588
Neemuch	—	41,882	41,882	19,896	—	—	—	—	—	288	—	—	20,736	931	31
Agra District, Rajpootana	28,390	226,048	254,438	16,843	2,872	55,196	7,709	6,940	—	1,197	—	—	47,916	2,156	113,609
Delhi do. do.	40,668	201,315	241,983	8,799	12,830	34,011	80,553	13,489	—	2,354	2,426	—	34,834	1,783	50,904
Nulhatee	30,000	—	30,000	—	—	*30,000	—	—	—	—	—	—	—	—	—
Calcutta and South-eastern	268,383	476,246	744,629	6,769	108,507	106,681	158,858	91,717	3,766	8,602	136,251	—	86,773	18,766	17,939
Northern Bengal	—	13,057	13,057	1,037	—	—	—	—	—	1,115	—	—	10,545	266	94
Gwalior (Survey)	—	356	356	26	—	—	—	—	—	31	—	—	257	7	35
Nagpore and Chuteesghur	—	1,290	1,290	143	—	—	—	—	—	51	—	—	1,041	43	12
State Railways—Ordinary.															
Moradabad, Deobund, and Roorkee (Survey)	—	2,852	2,852	52	—	—	—	—	—	34	—	—	2,616	150	—
Native States.															
Nizam's	—	434,960	434,960	1,057	—	129,385	7,406	4,685	—	10,460	15	—	49,268	2,519	280,165
Khamgaum Branch	—	48,530	48,530	37	39	10,921	29,323	4,638	125	343	32	—	2,888	234	—
Oomraotee Branch	13,316	30,414	43,730	112	245	9,415	25,259	4,344	110	301	15	—	3,806	123	—
Mysore	—	11,624	11,624	550	—	—	—	—	—	831	—	—	9,994	249	—
Total	587,722	2,783,496	3,371,218												

* This amount was paid to the Oude and Rohilkund Railway Company for purchase of the Line.

Note.—The total expenditure in England on State Railways to 31st December 1872 amounted to 708,827*l.* The above figures represent only that portion of such expenditure as had been appropriated in India to the several undertakings to the date of the last advices received.

India Office, 16th May 1873.

T. W. Keith,
Accountant.

STATEMENT No. 2.

Showing the Amount of Capital estimated to be required for each Undertaking as now sanctioned, the Amount authorised to be raised, the Amount raised, and the Amount withdrawn, to 31st March 1873.

Railway.	Estimated Cost of Lines.	Amount authorised to be raised on 31st March 1873.						Amount raised in England to 31st March 1873.						Amount raised in India to Date of last Advices.		Total Amount raised to 31st March 1873.	Total Amount withdrawn to 31st March 1873 (partly estimated).
		Share Capital.	Debentures.		Debenture Stock.	Capital not bearing Interest.	Total.	Share Capital.	Debentures.		Debenture Stock.		Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.		
			Convertible into Shares.	Inconvertible.					Convertible into Shares.	Inconvertible.	Stock represented.	Cash received.					
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	* £
East Indian—Main Line	27,750,000	22,644,000	356,000	2,950,000	1,500,000	160,165	27,610,165	22,263,897	356,000	2,950,000	*1,500,000*	1,500,000	158,827	326,325	1,338	27,556,387	27,672,059
,, Jubbulpore Line	3,250,000	2,719,050	480,950	—	—	30,034	3,230,034	2,708,400	480,950	—	—	—	30,034	7,665	—	3,227,049	3,151,778
Great Indian Peninsula	24,000,000	20,000,000	—	1,304,250	3,065,300	229,602	24,599,152	19,064,125	—	1,304,250	*2,701,450*	2,475,559	228,860	405,047	742	23,478,583	23,438,788
Madras	10,500,000	10,106,800	195,600	500,000	—	9,759	10,812,159	9,457,482	195,600	500,000	—	—	9,759	—	—	10,162,841	10,156,460
Bombay, Baroda, and Central India	8,000,000	7,476,200	495,800	—	—	34,832	8,006,832	7,175,762	495,800	—	—	—	34,832	21,672	—	7,728,066	7,735,405
Scinde, Punjab, and Delhi	11,000,000	11,418,900	—	—	—	3,320	11,422,220	10,989,782	—	—	—	—	3,320	86,004	—	11,079,106	10,367,210
Great Southern of India	3,000,000	2,364,700	55,200	—	425,000	36,000	2,880,900	2,351,787	55,200	—	*425,000*	425,000	36,000	1,221	—	2,869,208	1,778,581
Eastern Bengal	3,200,000	2,255,520	—	237,050	384,563	2,288	2,879,421	2,238,996	—	237,050	*384,563*	350,030	2,288	16,486	—	2,844,850	3,019,238
Oude and Rohilkund	6,000,000	3,953,300	46,700	—	—	2,121	4,002,121	3,533,873	46,700	—	—	—	2,121	415,898	—	3,998,592	†4,264,879
Carnatic	800,000	800,000	—	—	—	22,200	822,200	769,042	—	—	—	—	22,200	—	—	791,242	101,627
Total	97,500,000	83,738,470	1,630,250	4,991,300	5,374,863	530,321	96,265,204	80,553,146	1,630,250	4,991,300	*5,011,013*	4,750,589	528,241	1,280,318	2,080	93,735,924	91,686,025

† Advances as required, bearing interest at the rate of 5 per cent. per annum, were agreed to be made to the Oude and Rohilkund Railway Company during the official year 1872-73, to the extent of 500,000*l.*

India Office, 10th April 1873.

T. W. KEITH,
Accountant.

* These amounts are subject to modifications, some of them including expenditure which will be apppropriated to Revenue.—J. D.

STATEMENT No. 3.

Showing the Amount received from and withdrawn by each Company during the Year ended 31st March 1873.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1872.	Sums advanced to the Companies on the 31st March 1872.	Amount received				Amount withdrawn					Total received during the Year ended 31st March 1873.	Total withdrawn during the Year ended 31st March 1873.
			In England, between 1st April 1872 and 31st March 1873.			In India, between 1st April 1872 and the Date to which Accounts have been received.	In England, between 1st April 1872 and 31st March 1873.		In India.				
			Share Capital.	Debenture Stock.	Capital not bearing Interest.	Share Capital.	On account of Stores, Establishment Charges, &c.	For Discharge of Debentures.	Date to which Accounts have been received.	Amount.	Estimated Withdrawals between Dates specified and 31st March 1873.		
	£	£	£	£	£	£	£	£		£	£	£	£
East Indian: Main Line - -	—	*24,000	50,825	—	4,267	—	104,770	54,000	31st January 1873	†12,006	—	55,092	146,764
„ Jubbulpore Line -	*75,106	—	—	—	—	—	—	—	„	†165	—	—	†165
Great Indian Peninsula - -	574,517	—	100,654	—	15,125	—	273,022	477,800	„	†130,321	30,000	115,779	650,501
Madras - - -	122,960	—	7,461	—	9,434	—	98,265	—	„	20,208	15,000	16,895	133,473
Bombay, Baroda, and Central India	103,398	—	37,440	—	16,832	—	58,929	106,800	„	†10,720	10,000	54,272	165,009
Scinde, Punjab, and Delhi -	743,757	—	—	—	3,320	—	35,306	—	31st December 1872	†125	—	3,320	35,181
Great Southern of India - -	1,142,452	—	9,408	—	—	—	7,293	1,500	„	37,440	15,000	9,408	61,233
Eastern Bengal - - -	—	136,88	64	78,781	323	—	33,139	—	31st January 1873	73,532	10,000	79,168	116,671
Oude and Rohilkund - -	78,836	—	469,394	—	—	9,626	212,141	—	„	522,003	90,000	479,020	824,144
Carnatic - - -	698,200	—	1,144	—	—	—	‡129	—	„	8,100	1,500	1,144	9,729
Total - -	3,539,226	16. 88	676,390	78,781	49,301	9,626	822,994	640,100	—	507,946	171,500	814,098	2,142,540

* These Balances are subject to adjustment in respect of Rolling Stock supplied by the Main line for the Jubbulpore line.
† Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c. exceed by these Sums the amount withdrawn in India on Capital Account during the year.
‡ A sum of 3,885*l.* being proceeds of sale of engines, ha been taken in reduction of expenditure.

India Office, 10th April 1873.

T. W. KEITH,
Accountant.

26. It will be seen by the following statement of the annual expenditure on guaranteed railways since their commencement, that during the past year the amount was less than it has been for nearly twenty years. The largest expenditure occurred in the two years after the mutiny, that for 1859–60 being 7,171,464*l.*, and for 1860–61, 7,578,715*l.* The years 1866–67 and 1867–68 saw the next largest, 7,297,703*l.* and 7,297,703*l.* being the respective amounts. Annual expenditure on guaranteed lines.

STATEMENT of WITHDRAWALS out of CAPITAL for EXPENDITURE; showing the Amount withdrawn in England and in India by all the Guaranteed Indian Railway Companies during each Financial Year from the commencement to 31st March 1873.

Year.	England.	India.	Total.
	£	£	£
1849–50	69,211	6,682	75,893
1850–51	61,164	38,099	99,263
1851–52	154,212	197,111	351,323
1852–53	174,920	252,640	427,560
1853–54	252,484	418,165	670,649
1854–55	960,878	769,278	1,730,156
1855–56	1,935,074	1,431,337	3,366,411
1856–57	1,752,813	1,762,287	3,515,100
1857–58	1,328,243	2,094,825	3,423,068
1858–59	1,941,033	3,551,075	5,492,108
1859–60	2,508,668	4,662,796	7,171,464
1860–61	2,388,315	5,190,400	7,578,715
1861–62	1,597,430	5,004,782	6,602,212
1862–63	1,852,393	4,010,951	5,863,344
1863–64	1,415,146	3,340,507	4,755,653
1864–65	1,396,821	2,725,419	4,122,240
1865–66	2,222,679	3,414,187	5,636,866
1866–67	3,958,357	3,339,346	7,297,703
1867–68	3,924,490	3,195,591	7,120,081
1868–69	1,969,814	2,512,084	4,481,898
1869–70	2,298,680	2,444,171	4,742,851
1870–71	1,899,054	1,877,216	3,776,270
1871–72	886,996	1,609,732	2,496,728
1872–73	822,994	*679,446	*1,502,440
	37,771,869	54,528,127	92,299,996
Deduct amount withdrawn by the Calcutta and South-eastern Railway Company, this Railway having subsequently become the property of the State	267,362	346,609	613,971
	37,504,507	54,181,518	91,686,025

* These amounts are partly estimated.

India Office,
10th April 1873.

T. W. KEITH,
Accountant.

27. According to the following statement, the sum out on debenture loans on the 31st March last was 805,650*l.* less than at the end of the previous year, the respective amounts being 6,621,550*l.* and 7,427,200*l.*

STATE of DEBENTURE LOANS on the 31st March 1873.

Railway.	Amount. Convertible.	Amount. Inconvertible.	Amount. Total.	Rate of Interest	Date at which Loan expires.
	£	£			
East Indian	—	10,000		4½	19th March 1875.
"	480,950	—		5	23d March 1875.
"	—	196,150		4½	10th August 1875.
"	—	1,024,000		4½	" "
"	356,000	—		5	9th August 1876.
"	—	96,400		4½	10th August 1877.
"	—	183,450		4½	" "
"	—	1,000,000		4½	22d August 1877.
"	—	440,000		4	19th March 1878.
	836,950	2,950,000	3,786,950		
Great Indian Peninsula	—	268,800		5	30th June 1873.
" "	—	1,035,450		5	31st Dec. 1876.
	—	1,304,250	1,304,250		
Madras	—	500,000		4½	1st January 1876.
"	195,600	—		5	1st January 1877.
	195,600	500,000	695,600		
Bombay, Baroda, and Central India	262,000	—		5	1st January 1875.
" " "	233,800	—		5	1st July 1876.
	495,800	—	495,800		
Great Southern of India	2,000	—		5	1st January 1874.
" "	53,200	—		5	1st July 1874.
	55,200	—	55,200		
Eastern Bengal	—	181,550		5	1st November 1874.
"	—	55,500		5	1st November 1876.
	—	237,050	237,050		
Oude and Rohilkund	46,500	—		5	15th April 1875.
" "	100	—		5	28th July 1876.
" "	100	—		5	18th February 1879.
	46,700	—	46,700		
			6,621,550		

India Office,
10th April 1873

T. W. KEITH,
Accountant.

COST OF THE RAILWAYS.

Cost of the railways.

28. It will have been remarked that the cost of lines recently constructed, irrespective of the reduced expenses consequent on the adoption of the metre gauge, has been much less than the average cost of those railways which form the original main system. Instead of 18,000*l.* and 20,000*l.* per mile, we now see lines constructed on the 5 feet 6 inches gauge for 4,000*l.*, 6,000*l.*, and 9,000*l.*

29. The Wudwan branch of the Bombay, Baroda, and Central India Railway, completed last year, passing, it is true, through comparatively easy country, cost, for instance, under 6,000*l.* a mile. The Neilgherry branch of the Madras line, which traverses anything but a favourable district for railway works, will cost about 7,000*l.* a mile, exclusive of rolling stock. The Oude and Rohilkund Railway, with its extensive bridges, viaducts, and culverts, probably will not exceed 9,000*l.* a mile including everything. The Patree branch from the Bombay, Baroda, and Central India Railway to the Runn of Cutch has been constructed for less than 4,000*l.* a mile, but no rolling stock has been specially provided.

30. The questions naturally arise, how can this difference be accounted for? and why did the original lines cost so much? Some would attribute the greater portion of the excessive cost to the guarantee system. I do not share this opinion, which is in some measure disproved by the above facts, for while I consider the system to be far from perfect, and the principle of guarantee one which should only be applied in exceptional circumstances on grounds of necessity, it can, I think, be shown that other causes combined to produce the costliness of the trunk lines. Before proceeding to this investigation, I would first remark that, under the system in question, the Government was vested with absolute control over the expenditure of the companies, that to the Government was also left the alignment of the railways, and that if when carrying out the arrangements contemplated in the contracts between the Government and the companies, mistakes were made, the system itself cannot be wholly charged with the defects. The only other plan suggested for introducing railways into India, viz., direct Government agency, would, I apprehend, have involved a yet greater expense and a still less satisfactory result. It was not, indeed, available when the railways were commenced, as Lord Dalhousie emphatically declared. No Public Works Department existed in those days. All engineering works were carried on under the superintendence of a Military Board, none of whose members had any experience of railways. The instances of delay, suspension, stoppage, and failure which have not unfrequently occurred on other public works in India point also to what would have been the result if railways had been undertaken directly by the Government. Now, things are very different. The Public Works Department has been properly organised; experience has been gained, and a thorough and efficient railway executive will soon be established. As, moreover, capital can now be raised upon more favourable terms by the Government going direct into the market than by obtaining it through guaranteed shares, there are reasons which did not formerly exist in favour of the Government taking the construction of railways into their own hands.

31. To return to the question immediately under consideration, viz., that of cost, I would, in the first place, draw attention to the fact that of the 5,500 miles of trunk lines, the average cost of which has been 18,000*l.* a mile, about 1,860 miles have been made on an average of less than 12,000*l.* a mile, that of the remaining 3,640 miles, about 700 have cost between 15,000*l.* and 16,000*l.* a mile, and 2,940 on an average 20,000*l.* This last includes the East Indian, the Great Indian Peninsula, the Bombay, Baroda, and Central India, the Eastern Bengal and the Calcutta and South-eastern. The Bombay, Baroda, and Central India Railway, and the Eastern Bengal are lines which, in a comparatively short space, comprise several works of magnitude and expense, as bridges, flood openings and terminal stations, and are not therefore fair examples. The cost of the Great Indian Peninsula also has been increased by mistakes which were avoidable. But the East Indian Railway is a fair specimen of an expensive and well constructed line, and furnishes a good opportunity for analysis.

32. The length of the East Indian Railway is 1,505 miles, consisting of (1.) a main line of 1,130 miles along the valley of the Ganges with certain branches; (2.) a Chord line, constructed with the exception of the branch to Raneegunge, after the other had been finished, 150 miles in length, extending from Burdwan 67 miles from Calcutta to the main line at Luckeserai, and (3.) a line branching off from

the main line at Allahabad, and proceeding to Jubbulpore, a distance of 224 miles. The total capital expended, exclusive of stores in hand, the value of which is given in page 17, is 29,700,000*l.* The Jubbulpore line, the capital account of which has been kept separate, cost 3,200,000*l.* The 150 miles of the Chord line, lately completed, cost 2,300,000*l.* The expenditure on the 1,130 miles of the original main line and branches thus remains at 23,800,000*l.* The work of construction was commenced in the year 1851 on the section between Calcutta and Raneegunge, and the whole line was finished in 1864, having been gradually opened for traffic section by section. It was not constructed telescopically, but was carried on simultaneously at various places, the two main divisions being those of Bengal and of the North-West Provinces. This mode of procedure involved the necessity of conveying the materials from Calcutta by river and by road at a very high charge. So great was the difficulty, and so many native boats with large quantities of materials on board were lost on their way up, that it was considered advisable to build in this country a fleet of steamers and barges at a cost of 750,000*l.* to convey the permanent way to its destination. The first political disturbance that had any effect upon the cost of the line was the Sonthal rebellion. This occurred in 1855, and not only caused suspension of the works and consequent compensation to contractors, but positive damage and inconvenience likewise.* Then came the mutiny. At the time it broke out, 166 miles had been opened in Bengal, and a section of 126 miles between Allahabad and Cawnpore in the Upper Division was on the eve of being completed, and was instrumental in conveying troops to the scene of the military operations in Oude. During the mutiny, the works on a large part of the line, which had been advancing towards completion, were totally suspended and greatly damaged. Portions of the open line were also injured and broken up. In some places large numbers of the railway staff were murdered, and in others, stations were turned into fortified posts, and gallantly defended. The amount of direct and indirect loss incurred by these calamities cannot be positively ascertained, but it was estimated at the time at 3,000,000*l.*, and it cannot be reckoned at less, when the property destroyed, the time lost, the works that had to be reconstructed, the wages of unemployed establishments, the increased difficulty of transport, and the claims of contractors are considered.† When the suppression of the mutiny admitted of the recommencement of operations, great efforts were made to establish railway communication, almost regardless of cost. Prices for labour and materials had greatly risen, and the arrangements entered into involved charges hitherto unknown. The route of that portion of the line which extended from Cawnpore to Delhi, and upon which a considerable outlay had already been incurred before the mutiny, was altered. Instead of the line going along the south bank of the Jumna, through Agra to Delhi, its direction was changed to the north bank, and it was taken through the Dooab to Ghazeeabad, where there is a branch to Delhi. Thus, the difficulties of transport, the Sonthal rebellion, and the mutiny, must have added at least 4,000,000*l.* to the capital expenditure of the East Indian Railway. Deducting this amount from the 23,800,000*l.* given above as the cost of 1,130 miles, the average cost per mile would be 17,520*l.* We have then to consider the character of the works and the nature of the country through which the line passes.

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* The following extract from a memorandum by Mr. Cecil Stephenson, the present head of the Indian Agency of the East Indian Railway Company, bears testimony to this point:—"The Sonthal "rebellion was particularly mischievous in its effects. It began in July, and lasted to the end of the "year, and its results were depopulation, pestilence, and famine. It extended from the experimental "line about Raneegunge coalfields to the banks of the Ganges, and retarded the completion of the line "to Rajmahal, at least for twelve months, whilst its effects were felt for years afterwards, and the early "completion of that section of the line to Ragmahal happened to be most important to the company, "because it tapped the water communication, for conveyance of its materials, for the next 500 miles "of railway, and avoided the tremendously circuitous route by the Sunderbunds."

† Mr. Stephenson, refering to this matter, says: "The enhanced cost for transport of material was "one of the results of the mutiny, enormously increased by the wholesale destruction of river boats, not "by insurgent troops only, but by the orders of Government, which enjoined on the civil authorities the "duty of destroying all such means of communication for crossing the main rivers between the insurgent "bodies, after which the company found itself face to face with the necessity for transporting three or "four hundred thousand tons of material from the port of Calcutta to their place on the works, and "that, too, at a time when the Government itself was also in the market for all the available tonnage "on the river. Indeed, the company devoted some of its own boats, as soon as they were constructed, "to meet the urgent needs of the Government at this time."

33. In the first place, there are 414 miles of double line, the additional cost of which has been about 1,680,000*l.*, or 4,000*l.* a mile; 700 miles have also been made with banks, masonry, and bridge foundations ready for a double line. The cost of this extra work is estimated at 2,000*l.* a mile, or 1,400,000*l.*, and the locomotives and rolling stock have cost 2,500*l.* a mile, or 2,875,000*l.* Deducting these sums from the 19,800,000*l.* already arrived at, after making allowance for the effects of the political disturbances and the conveyance of materials, 13,845,000*l.* remains, giving an average of 12,250*l.* per mile for the actual construction of a single line with sidings equal to 20 per cent. of the whole. In the second place, there occur in its course several formidable rivers and many streams, as well as land subject to inundation, which required large bridges and an extensive system of waterway almost unequalled by any line in the world. The three bridges over the Soane and Jumna are works of great magnitude, and those over the Adjai, More, Keeul, Hullohur, and Tonse are also of considerable size, spanning waterway which doubles that of all the bridges over the Thames in London. The superstructure of these bridges consisted of iron girders which were sent from this country. It has been estimated that the viaducts and bridges cost 1,725,000*l.*, being at an average of 1,500*l.* per mile of line. Lastly, the works throughout the line are of a substantial if not massive character, and have firmly withstood the rains and floods of many seasons. The permanent way answers the same description.

34. An endeavour has thus been made to explain the various causes which contributed to produce the large expenditure on the East Indian Railway. It will be observed that a great part of the outlay arose from causes which were unavoidable and of an extraordinary and unexpected character, that some of it was due to the novel character of the undertaking and to the plan adopted of commencing operations in the upper portions of the line before the lower could be used as a means of transport, as well as to those mistakes which invariably attend inexperience, and that the rest is represented by a firm and substantial line, comprising bridges and viaducts of great size and extent which have never yet failed, and laid with a permanent way, which enables it to be maintained and worked at 42 per cent. of the gross receipts.

35. It only remains to allude to the difference between the circumstances and conditions under which the East Indian line was constructed, and those which are applicable to present and future railway operations. While the cost of labour and the price of materials have increased, the difficulties which invariably attend the introduction of any important work into a country no longer exist. Experience now takes the place of ignorance, and positive facts are available instead of doubtful information. The conveyance of the permanent way materials from the ports at which they are received from England to the interior will now be conducted at a moderate cost by the sure and speedy means afforded by the railway, instead of by the expensive and uncertain methods which were alone available for the earlier lines. Now, also, it has become the practice to adopt lighter materials and lighter permanent way, and the science of bridge making has so advanced as to simplify construction and to reduce cost.

36. Lastly, the country is now free from political disturbances, and we have an improved administration, with an executive bent on economy and exercising an intelligent and efficient control.

REVENUE.

36. The revenue derived from the railways during the past year was slightly in excess of the previous year, but the increase is not sufficient to reduce by any appreciable amount the difference between the net earnings and the sum paid for guaranteed interest, which is this year of course greater than last year.

37. In 1872 the net revenue was 2,869,223*l.* In 1871 it was 2,686,260*l.* In 1872 the gross receipts were 6,351,617*l.*, and the expenditure amounted to 3,482,394*l.* In the previous year the gross receipts were 6,146,130*l.*, and the expenditure 3,459,870*l.*

38. The passenger and miscellaneous receipts in 1872 were 2,387,003*l.*, compared with 2,120,821*l.* in 1871.

39. The goods receipts were 3,964,614*l.* in 1872, and 4,025,309*l.* in 1871.

40. It will be seen by a reference to the receipts and expenditure of each company given in the statement in page 27, that, with the exception of the Great Indian Peninsula and the Carnatic, all the lines show a small increase in their net earnings, and this improvement, it may be added, would have been greater in some cases if there had not been extraordinary expenses, as well as loss of traffic, in consequence of flood damages.

41. The guaranteed interest advanced by the Government during the year 1872 amounted to 4,600,883*l.*, and as the railway receipts were only 2,869,223*l.*, a sum of 1,731,660*l.* had to be charged upon the revenues of the country. Last year there was a similar charge of 1,740,720*l.*

42. Although such a result was expected at the commencement of the year, it is no less to be deplored. But it should be borne in mind that some of the guaranteed capital has been raised for, and expended upon, lines which are not completed or open for traffic. A sum of 6,000,000*l.* may in this way be regarded as unremunerative, so that about 300,000*l.* may be properly deducted from the deficit, when it is referred to as illustrating the deficiencies of the present railway system. The last few years are not, it is hoped, a fair criterion of the future. The fluctuations of trade will no doubt always produce corresponding effects upon the traffic, but a gradual development is taking place, which will become more rapid as new roads and feeders are made to the existing lines, and new districts are thus opened to the advantages of railway communication. It should be added, however, that sometimes scarcity produces traffic in India, the movements of seed and grain in large quantities from one part to another being necessary to provide food for famine-stricken districts. An example of this is given in the traffic returns of the Great Indian Peninsula Railway for the last two years, in the former of which a large traffic in grain took place in order to supply the wants of the population in certain places where food was deficient.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

Statement of the Total Amount of Interest advanced to each of the under mentioned Railway Companies to 31st December 1872.

Railway Company.	Interest advanced to 31st December 1871.	Interest advanced during 1872.			Total.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian - - -	15,721,344 17 11	1,490,726 11 7	12,651 17 1	1,503,378 8 8	17,224,723 6 7
Great Indian Peninsula	8,976,822 0 2	1,148,611 15 11	20,242 19 7	1,168,854 15 6	10,145,676 15 8
Madras - - -	4,879,064 10 1	499,843 10 0	—	499,843 10 0	5,378,908 0 1
Bombay, Baroda and Central India - -	3,151,255 2 9	385,425 5 7	1,083 12 4	386,508 17 11	3,537,764 0 8
Scinde, Punjab & Delhi	3,606,338 0 3	552,180 1 5	3,614 14 8	555,794 16 1	4,162,132 16 4
Great Southern of India	609,916 6 10	137,062 15 4	—	137,062 15 4	746,979 2 2
Eastern Bengal - -	1,064,271 12 10	131,720 4 9	1,217 19 5	132,938 4 2	1,197,209 17 0
Oude and Rohilkund -	365,556 8 9	171,966 5 9	6,826 19 11	178,793 5 8	544,349 14 5
Carnatic - -	43,506 10 7	37,709 1 8	—	37,709 1 8	81,215 12 3
Total - - £	38,418,075 10 2	4,555,245 12 0	45,638 3 0	4,600,883 15 0	43,018,959 5 2

India Office, 10th April 1873.

T. W. KEITH,
Accountant.

A STATEMENT showing approximately the AMOUNTS advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to the 30th June 1872, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total Amount advanced to 31st December 1872.*	Aggregate of Net Revenue Balances for the several half-years to 30th June 1872, inclusive.	Net Amount advanced.
	£	£	£
East Indian, Main Line - -	15,820,402	11,336,083	4,484,319
„ Jubbulpore Line - -	1,404,321	145,584	1,258,737
Great Indian Peninsula - -	10,145,677	5,105,216	5,040,461
Madras - - - -	5,378,908	2,378,211	3,000,697
Bombay, Baroda and Central India -	3,537,764	1,392,910	2,144,854
Scinde, Punjab and Delhi - -	4,162,133	377,992	3,784,141
Great Southern of India - -	746,979	262,899	484,080
Eastern Bengal - - -	1,197,210	668,846	528,364
Oude and Rohilkund - - -	544,350	*2,960*†	547,310
Carnatic - - - -	81,215	5,060	76,155
Total - -	£43,018,959	21,669,841	21,349,118

* The Interest for the half-year to 30th June 1872 not being paid until the succeeding half-year.
† Amount advanced on Revenue Account in excess of Receipts.

India Office, 10th April 1873.

T. W. KEITH,
Accountant.

STATEMENT showing the REVENUE of the RAILWAYS in 1871 and 1872.

Railway.	Receipts.								Expenditure.						Per-centage of Expenditure to Gross Receipts.		Net Receipts.	
	Passengers.		Goods.		Miscellaneous.		Total.		Maintenance.		Working.		Total.					
	1871.	1872.	1871.	1872.	1871.	1872.	1871.	1872.	1871.	1872.	1871.	1872.	1871.	1872.	1871.	1872.	1871.	1872.
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	£	£	£			£	£
East Indian: Main Line	675,398	721,883	1,569,668	1,579,225	77,862	135,905	2,322,928	2,437,013	190,626	197,891	790,499	806,937	981,125	1,004,828	42·23	41·23	1,341,803	1,432,185
„ Jubbulpore Line	66,634	73,287	69,749	79,759	9,564	67,598	145,947	220,644	20,503	19,406	86,867	80,127	107,370	99,533	73·56	45·11	38,577	121,111
Great Indian Peninsula	462,584	509,012	1,360,373	1,177,902	33,022	29,843	1,855,979	1,716,757	352,819*	194,146	817,092	908,788	1,169,911*	1,102,934	63·03	58·38	686,068*	613,823
Madras	202,851	218,164	325,891	328,091	20,383	22,597	549,125	568,852	88,875	92,246	192,642	204,659	281,517	296,905	51·26	52·19	267,608	271,947
Bombay, Baroda and Central India	187,531	198,551	298,042	304,510	16,219	14,793	501,792	517,854	77,739	103,069	221,742	207,485	299,481	310,554	59·68	59·96	202,311	207,300
Scinde, Punjab and Delhi	189,335	189,571	186,726	223,177	12,229	12,727	388,290	425,475	100,567	63,686	283,316	301,230	383,883	364,916	98·86	85·68	4,407	60,559
Indus Steam Flotilla	4,159	4,306	56,262	65,055	†	1,754	60,421	71,115	†	†	50,325	53,034	50,325	53,034	83·29	74·57	10,096	18,081
Great Southern of India	41,832	40,154	28,194	32,295	1,817	1,554	71,343	74,003	9,222	10,395	30,144	31,386	39,366	41,781	55·17	56·43	31,977	32,222
Eastern Bengal	81,617	91,980	113,284	152,396	6,611	12,490	201,512	256,866	26,482	59,214	85,518	104,879	111,950	164,093	55·55	63·85	89,562	92,773
Oude and Rohilkund	15,013	26,012	9,749	15,344	852	920	25,614	42,276	5,875	5,565	11,879	23,427	17,754	28,992	69·31	68·57	7,860	13,284
Carnatic	3,282	3,001	257	397	21	80	3,560	3,478	452	878	1,859	1,437	2,311	2,315	64·91	66·56	1,249	1,163
																	2,681,518	2,864,448
STATE.																		
Calcutta and South-eastern	5,090	5,180	1,884	2,562	971	649	7,945	8,391	1,716	2,079	5,934	5,551	7,650	7,630	96·28	90·93	295	761
Nulhatee (1 April to 31 Dec.)	4,926	3,911	2,158	1,609	704	124	7,788	5,644	762	603	3,759	2,622	4,521	3,225	58·05	57·12	3,267	2,419
BERAR.																		
Oomrawuttee	439	710	1,303	1,379	8	22	1,750	2,111	(Capital)	†	805	1,138	805	1,138	45·97	53·89	945	973
Khangaum	358	220	1,769	913	9	5	2,136	1,138	651	†	1,250	516	1,901	516	88·99	45·34	235	622
Total	1,940,549	2,085,942	4,025,309	3,964,614	180,272	301,061	6,146,130	6,351,614	876,239	749,178	2,583,631	2,733,216	3,459,870	3,482,394	56·29	54·82	2,686,260	2,869,223

* These figures were, I regret to say, given incorrectly in last year's report, in consequence of a sum of 137,820*l.*, consisting of contributions to the Permanent Way Renewal Fund, the Extraordinary Casualty Fund, and Fire Insurance Fund, having been inadvertently omitted when making up the account for maintenance. They should, of course, have been deducted from the receipts of the railway for the year. The expenses for maintenance were given at 104,999*l.*, which represented simply the cost of maintenance for that period, instead of 352,819*l.* as now stated.

† Not returned.

TRAFFIC AND WORKING.

43. The passenger traffic last year produced 2,085,942*l.*, as compared with 1,940,549*l.* in the previous year. The difference of 144,369*l.* was principally made up by the increase in the receipts from third and fourth class passengers which amounted to 91,385*l.* These classes contributed 1,496,610*l.*, or 77 per cent. of the whole. The number of passengers increased from 18,940,585 to 20,332,823. The first and second classes slightly declined. The third class rose from 14,113,436 to 15,126,824, and the fourth, or coolie class, from 3,516,549 to 3,911,429. The increase in numbers, which took place chiefly on the East Indian, the Madras, and the Bombay, Baroda and Central India Railways, has partly been produced by a reduction in fares, which has not yet had time to yield a corresponding increase in the receipts. The third and fourth classes constituted 93·63 per cent. of the whole number. Passenger traffic.

44. The receipts per mile in 1872 were 400*l.*, compared with 394*l.* of the previous year.

45. The receipts from the goods and mineral traffic were last year 3,964,614*l.*, compared with 4,022,615*l.* in 1871, shewing a decline of 58,000*l.* A larger amount of tonnage was however carried, 2,929,637 tons having been conveyed in 1872, against 2,615,966 in 1871. The falling off in receipts occurred on the Great Indian Peninsula Railway, which shews a decline of about 156,000*l.* in receipts and 82,143 tons in weight. In cotton and grain alone there was a falling off of 35,500 and 24,080 tons respectively. An examination of Table No. 6, p. 41, will shew how the quantities of the principal articles of merchandise conveyed on the railways have varied in the two last years. Goods traffic.

46. The number of trains run was 155,594, compared with 131,360 in the previous year. The train mileage was 14,543,862, compared with 14,080,064.

47. The train mileage receipts averaged 8·63*s.*, being just about the same as last year. The highest receipts per train mile were on the Bombay, Baroda and Central India Railway, where they amounted to 12·51*s.* The mileage receipts on the Eastern Bengal were 9·90*s.*, and on the East Indian, 9·33*s.* The lowest were on the Calcutta and South-eastern, being 4·9*s.* Train mileage.

48. Turning to the expenses, it will be seen that the total expenditure for maintaining and working the railways was 3,328,644*l.* in 1872, compared with 3,251,725*l.* in 1871. On the Indus Flotilla it was 53,034*l.* in 1872, compared with 50,325*l.* in the previous year. The expenses per train mile were the same in both years, viz., 4·50*s.* The proportion of working expenses to gross receipts was on the average 53 per cent. This varied, however, considerably on the different lines. On the East Indian main line the expenses were only 41 per cent. of the gross receipts; on the Great Indian Peninsula 58, on the Scinde, Punjab, and Delhi 86, and on the Calcutta and South-eastern they were as high as 91 per cent. The cost of maintenance has been exceptionally high on those lines which suffered from severe floods. The revenue accounts of the Madras, the Bombay, Baroda and Central India and the Eastern Bengal are injuriously affected by this cause. Working expenditure.

49. The information given in the table relating to the expenditure on revenue account will enable a comparison to be made between the various lines, both in regard to the general results and to the different departments. In some cases it will be found that the cost of maintenance and of renewals formed a quarter of the whole expenses, in others that it was only 8 per cent.; that the locomotive expenses on some lines were 23*d.* per train mile, and on the East Indian main line as low as 12·7*d.*; that sometimes they formed 30 and 33 per cent. of the gross receipts; at others 11, 16, and 17. Similar variations occur in other departments, and it is useful where the differences are considerable and cannot be easily explained, to investigate the cause, in order that measures for ensuring economy may be applied where practicable.

50. The mileage rate has generally been the best available comparative test, but the unit which should supply the means of the most thorough insight into the working of a line is the more minute figure, shewing the cost of conveying a passenger and a ton of goods one mile, and the earnings from each respectively. This was worked out by Mr. Rendel in a table which appeared in the Appendix to the last Report, and which has caused just the discussion and the inquiry among those engaged in the management of the railways which was wanted. A similar table has been prepared by Mr. Rendel from the returns of last half-year's working, and is given in the Appendix; as is also a table prepared by Mr. J. A. Baynes, of the Bombay, Baroda and Central India Railway Company, containing particulars connected with the consumption of fuel on the different lines. Best guide for judging of the working of a line.

RATES AND FARES.

51. The effect of charges upon the traffic has been already alluded to. Now that the chief railways have been at work for several years, the question of rates and fares may be considered as passing from the experimental stage to one in which well ascertained results should be the guide to correct conclusions.

Principle upon which fares should be regulated.

52. A suitable scale of railway charges depends upon various circumstances, but principally upon the cost of production, *i.e.*, of conveyance. There must necessarily be a margin between such cost and the sum paid by the customer, but it by no means follows that the greater the difference the more will be the aggregate profit. In a country like India, especially, where the population is large and poor, it would be unwise to attempt to impose such rates for the conveyance of passengers as would remove the power of travelling from the great majority of the people. The true policy would seem to be to fix a rate, which, while leaving a margin for profit upon the cost of conveyance, would tempt the largest number to travel. If this is the correct view, it can well be understood how, as is often asserted, the interests of railways and of the community coincide. The same remarks will apply to charges for goods, and often with greater force, as for example in those cases where water carriage can compete with the railway, and where large tracts of land are kept out of cultivation, or mineral districts are unworked, in consequence of the cost of conveyance to a market raising the price of commodities beyond the consumer's means. Allowance must of course be made for variableness of trade, as the average cost of conveyance will in some measure be regulated by the amount carried; but this may be covered in the long run by a moderate margin; and it cannot be doubted that a large traffic at low rates gives a safer and steadier revenue than a small traffic at high rates. The first point to be ascertained, therefore, is what is the cost of conveyance; and this can be arrived at only after a careful examination of the working expenses of a line for a sufficient period to cover different seasons, and to include those influences on traffic which would enable a fair average to be taken.

53. Enough has already been ascertained to justify the lowering of rates in several instances during the past year. It has before been hinted that the falling off in the receipts on some of the lines may be the immediate effect of this reduction. The lowering of fares will naturally produce a small loss at first, but an impulse is given to traffic which, before very long, probably converts the loss into a gain. On the Ceylon Railway the fares were reduced 36 per cent. from the 1st January 1872. Mr. Robinson, the Finance and Traffic Manager, reports in June of that year as follows: "In submitting my recommendation for so large a "reduction, I quite anticipated that for the first year at least the revenue would "suffer considerably. Taking, however, the first four months of 1872, I find "that the receipts are slightly greater, whilst the number of passengers has "increased at the rate of 63 per cent., the increase being, as anticipated, chiefly "in short distances and third-class traffic."

54. But a suitable tariff, however important, is by no means all that is required to ensure success in railway enterprise. There is no commercial undertaking which requires more careful study, and more intelligent and energetic management than a railway. The Government as well as the railway companies are served by a body of very able officers, some of whom are well acquainted with, and some of whom are new to, the country. They are I believe doing their best to promote efficiency and economy in their several departments, but many of their subordinates are not always honest in their dealings with the passengers and customers of the railway. On one line the native station-masters have been accused of carrying on a system of black mail. This kind of extortion is rendered sometimes more easy by the European officers being ignorant of the native language. The power to converse with the natives, and to be ready to receive their appeals, is therefore a very necessary check against fraud and imposition; and it is to be hoped that a knowledge of the native language will be made a qualification for promotion and high office.

55. It is also very desirable to obtain uniformity of management. This may be promoted by periodical meetings of the railway officers employed on the different lines. At such meetings individual experiences might be communicated, and original proposals discussed with great advantage to all concerned.

STATEMENTS relating to the GROSS RECEIPTS and EXPENSES, the NET REVENUE, TRAIN MILEAGE, and GUARANTEED INTEREST for the Year ended 31st December 1872.

TABLE No. 1.—STATEMENT of TRAFFIC on the INDIAN

Railway.	Actual Number of Miles open on 31st December, and Average Number of Miles of Open Line during 1872.						Number of Miles of Sidings on 31st December 1872.	Passenger Traffic. Number of Passengers (*exclusive of* Holders of Season and Periodical Tickets).						Number of Holders of Season and Periodical Tickets.
	Double.		Single.		Total			By First Class.	By Second Class.	By Intermediate Class.	By Third Class.	By Fourth or Coolie Class.	Total by all the Classes.	
	Actual.	Average.	Actual.	Average.	Actual.	Average.								
GUARANTEED.														
East Indian, Main Line	414	414½	866	866	1,280	1,280½	284½	33,956	89,061	501,550	4,878,742	—	5,503,309	7,335
East Indian, Jubbulpore Line	—	—	223¾	223¾	223¾	223¾	21½	3,973	7,707	3,665	245,839	—	261,184	—
Great Indian Peninsula	292	292	974	978	*1,266	1,270	179	27,052	136,550	—	1,143,284	2,019,430	3,326,316	509
Madras	—	—	832	832	832	832	81½	9,775	112,610	—	2,022,873	350,032	2,495,290	164
Bombay, Baroda, and Central India	23	23	366½	350¾	389½	373¾	64	18,995	170,613	—	2,775,251	—	2,964,859	2,415
Scinde, Punjab, and Delhi	4½	4½	669½	665½	674	670½	110	12,750	32,577	12,354	1,951,210	—	2,008,891	—
Great Southern of India	—	—	168	168	168	168	13½	1,861	9,538	—	1,014,142	—	1,025,541	3
Eastern Bengal	—	—	156½	156½	156½	156½	—	32,260½	51,255½	—	304,004	1,155,211	1,542,731	2,320
Oude and Rohilkund	—	—	294	143	294	143	18½	168	9,313	—	640,383	—	649,864	—
Carnatic	—	—	19	19	19	19	1½	380	6,753	—	84,028	—	91,161	—
STATE.														
Calcutta and South-eastern	—	—	28	28	28	28	8½	—	4,058 Upper	—	—	336,034 Lower	340,092	—
Nulhatee (1 April to 31 Dec. 1872)	—	—	27½	27½	27½	27½	1½	636	838	—	2,360	49,669	53,543	—
BERAR.														
Oomrawattee	—	—	5½	5½	5½	5½	½	841	2,366	—	47,239	—	51,046	—
Kamgaun	—	—	7½	7½	7½	7½	½	180	605	—	9,932	1,053	13,770	—
Total Railways	733½	734	4,637½	4,471	5,371	5,205	785	142,327½	633,844½	517,569	15,119,926	3,911,429	20,325,596	12,859
„ Indus Steam Flotilla	—	—	—	—	—	—	—	169	150	—	6,908	—	7,227	—
„ Railways and Indus Steam Flotilla	—	—	—	—	—	—	—	142,996½	633,994½	517,569	15,126,824	3,911,429	20,332,823	12,859

* 12 additional miles of Mahpani Branch opened for coal traffic on 3rd September 1872.

RAILWAYS during the Year ended 31st December 1872.

Goods Traffic.											Number of Trains.					
	Number of Tons of Minerals.			Number of Tons of General Merchandise.												
Number of Live Stock.	Number of Tons of Coal and Coke.	Number of Tons of all other Minerals.	Total Number of Tons of Minerals.	Of First or Lowest Class.	Of Second Class.	Of Third Class.	Or Fourth Class.	Of Fifth or Highest Class.	Special and Sundry.	Total of all Classes.	Passenger (*including* Special and Troop) Trains.	Goods Trains.	Mineral Trains.	Mixed Passenger and Goods Trains.	Total Number of Trains.	Number per open Mile.
3,407	301,091	3	301,094	Not returned.						817,262	14,569	4,522	1,458	16,976	37,525	29
56	—	2	2	Not returned.						105,197	1,274	237	—	732	2,243	10
287,937	736	—	736	352,610	183,349	33,603	21,266	17,189	139,875	697,897	19,754	32,428	—	7,307	59,489	47
2,543	—	—	—	131,576	43,679	23,782	11,750	7,132	145,427	363,346	485	3,827	—	8,260	12,572	15
165,226	3,560	12,720 Co's. own materials on Capital account. 154,675 Back bay earth.	170,355	59,264	39,244	50,206	2,751	1,167	63,136	215,768	9,671	6,181	—	3,180	19,032	51
347	—	—	—	106,251	47,951	16,126	15,969	2,361	57,246	245,898	3,421	3,421	914	475	8,231	12
366	—	—	—	51,692	7,825	3,903	650	493	31,775	96,346	—	—	—	2,546	2,546	15
2,112	6,395	8,065	14,460	26,259	41,410	3,335	1,775	207	137,304	210,290	4,154	692	—	1,356	6,202	39
5	428	130	558	9,984	2,763	4,117	1,714	458	53,717	73,291	48	—	—	2,904	2,952	21
4	—	—	—	1,914	151	46	34	80	1,565	3,790	—	—	—	753	752	40
111	134	19	153	—	79	—	65	—	29,747	29,891	—	—	—	1,763	1,763	63
—	2,079	—	2,079	2,260	873	900	343	10	58	4,444	—	—	—	591	591	21
—	—	—	—	9,576	18,660	1,518	98	501	—	30,353	—	166	—	1,087	1,253	228
—	—	—	—	4,095	8,606	500	44	63	—	13,308	2	4	—	437	443	59
462,184	315,023	175,014	490,037	2,907,081						2,907,081	53,378	51,478	2,372	48,366	155,594	29
—	—	—	—	—						22,556	—	—	—	—	—	—
—	315,023	175,014	490,037	2,929,637						2,929,637	53,378	51,478	2,372	48,366	155,594	—

TABLE No. 2.—STATEMENT of TRAFFIC on the INDIAN RAILWAYS

Railway.	Number of Engines and Vehicles used in conveying Traffic.								Average Number of Vehicles in each Train.				By Passenger Trains, including Special and Troop Trains.	By Goods (including Construction Trains for other Railways) Trains.
		Carriages.									In each Mixed Passenger and Goods Train.			
	Engines.	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth Class.	Total Number.	Trucks.	Carriages in each Passenger Train.	Trucks in each Goods Train.	Carriages.	Trucks.		
GUARANTEED.														
East Indian (Main Line)	338	83	83	43	300	212 sundry	721	6,092	Not stated	31	Not stated	Not stated	1,844,845	1,830,126
„ (Jubbulpore Line)	37		12	4	58	24 sundry	110	1,082	Not stated	Not stated	Not stated	Not stated	260,102	58,721
Great Indian Peninsula	252	Not stated	Not stated	—	Not stated	Not stated	Not stated	Not stated	9	27	7	25	1,385,734	2,068,063
Madras	113	Not stated	Not stated	—	Not stated	Not stated	Not stated	Not stated	12	25	8	17	23,838	378,951
Bombay, Baroda, and Central India	55	13	22	7 composite	101	—	143	2,407	8·7	31	9	16	294,996	258,726
Scinde, Punjab, and Delhi	66	57	43	8	229	—	337	1,995	Not stated	Not stated	Not stated	Not stated	601,112	370,575
Great Southern of India	21	—	—	—	—	—	—	—	—	—	Not stated	Not stated	—	—
Eastern Bengal	43	19½	14½	—	30	65	172	747	13	40	5	27	255,686	181,411
Oude and Rohilkund	60	13	—	6 composite	100	—	124	377	—	—	8	11	2,166	—
Carnatic	4	3	10	4 composite	16	—	33	40	—	—	5	3	—	—
STATE.														
Calcutta and South-eastern	7	—	6 upper	—	—	18 lower	24	210	—	—	8	26	—	—
Nulhuttee (1 April to 31 Dec.)	4	2	1	—	1	4	8	20	—	—	5	6	—	—
BERAR.														
Oomrawattee	Not stated	—	—	—	—	—	—	—	Not stated	20	4	9	12	1,908
Kamgaun	Not stated	—	—	—	—	—	—	—	5	11	5	11	32	32
Totals	—	—	—	—	—	—	—	—	—	—	—	—	4,753,523	5,151,912

during the Year ended 31st December 1872—*continued.*

Number of Miles travelled by Trains (exc pt in shunting, piloting, and assisting).						Number of Ton Miles (expressed in the Number of Tons moved One Mile).									
								Goods Traffic.							
								General Merchandise.							
By Mineral Trains.	By Mixed Passenger and Goods Trains (the Numbers being divided proportionately). (P)	(G)	By Trains conveying Materials for Revenue Purposes.	Total Number of Train Miles.	Number of Train Miles per open Mile.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Minerals.	First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Special and Sundry.	Total of all Classes.	Total Mineral and General Merchandise.
104,802	720,827	720,827	—	5,222,227	4,078	Not stated	56,350,070	148,659,431	48,978,401	13,474,400	10,702,763	1,158,970	65,899,746	288,873,711	340,223,781
—	81,603	81,603	—	479,029	2,141	Not stated	213,991	11,292,420	2,506,524	1,129,645	232,160	40,832	1,280,128	16,481,709	16,695,700
—	194,861	344,129	39,625	4,023,012	3,178	Not stated	Not stated	97,083,287	38,684,301	11,057,908	5,813,736	5,139,063	1,258,875	158,537,290	—
—	573,985	761,296	—	1,738,770	2,090	684,298	—	19,477,026	7,277,390	4,103,562	2,540,461	1,275,260	24,942,925	59,616,924	59,616,924
—	104,493	174,216	—	827,431	2,314	127,112 luggage only	3,168,157	10,870,420	7,157,924	11,885,470	451,284	296,077	8,696,189	38,857,964	42,026,121
—	14,263	42,790	177,822	1,296,562	1,934	416,487	—	13,828,521	8,554,054	2,952,367	2,170,415	339,949	8,626,979	36,472,285	36,472,285
—	122,359	122,359	6,683	251,401	1,496	53,767	—	3,130,142	606,315	313,712	61,913	47,278	1,551,952	5,713,315	5,713,315
—	40,800	40,800	—	518,817	3,315	55,974	1,675,295	2,136,776	5,642,730	348,526	215,536	20,963	19,237,633	27,602,164	29,277,369
—	54,358½	54,358½	—	110,883	775	105,456	22,857	465,889	132,948	139,019	85,106	19,135	2,025,586	2,917,733	2,940,590
—	8,930	5,358	—	14,288	752	Not stated	—	—	—	—	Not stated in the Agent's Return.			—	—
—	17,139	17,139	—	34,278	1,224	Not stated	3,449	—	1,777	—	1,463	12	669,303	672,555	676,004
—	8,047½	8,047½	—	16,095	591	Not stated	56,631	57,750	23,771	24,452	9,152	256	1,580	116,961	173,592
—	3,884	2,638	—	7,542	1,371	Not stated	—	57,456	111,960	9,108	568	3,006	—	182,118	182,118
—	1,796	1,668	—	3,528	470	Not stated	—	32,760	68,848	4,000	352	504	—	106,464	106,464
104,802	1,947,408	2,377,989	224,130	14,543,862	2,794	—	—	—	—	—	—	—	—	—	—

TABLE No. 3.—GROSS RECEIPTS during Year

Railway.	Passenger Traffic.													Receipts from Live Stock.
	Receipts from Passengers.							Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Receipts for Mail Service.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic—(P.)	Passenger Receipts per Passenger Train Mile.	
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.							
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	£	s.	£
East Indian (Main Line)	32,033	31,848	32,742	530,784	—	3,069	630,528	55,157	2,895	6,702	26,601	721,883	5·02	976
„ (Jubbulpore Line)	5,069	4,037	1,593	44,415	—	—	55,169	6,491	1,299	2,447	7,880	73,286	4·02	1
Great Indian Peninsula	31,966	31,029	—	146,821	165,534	834	376,984	55,985	2,979	4,300	69,764	509,012	6·41	7,627
Madras	12,291	14,474	—	152,186	12,712	346	192,011	17,863	—	1,756	6,534	218,164	7·29	1,771
Bombay, Baroda, and Central India	4,705	10,132	—	157,962	—	2,324	175,123	14,609	171	4,302	4,346	198,551	9·94	8,558
Scinde, Punjab, and Delhi	8,112	10,799	2,103	140,590	—	—	161,634	17,797	183	—	9,957	189,571	5·37	48
Great Southern of India	733	944	—	36,456	—	24	38,157	1,816	3	115	63	40,154	6·56	23
Eastern Bengal	3,321	2,094	—	16,008	57,148	495	31,566	7,657	70	1,483	1,204	91,980	6·20	51
Oude and Rohilkund	63	1,754	—	21,178	—	—	23,000	2,042	—	284	686	26,012	9·20	1
Carnatic	35	333	—	2,592	—	—	2,960	32	—	9	—	3,001	6·72	—
STATE.														
Calcutta and South-eastern	—	Upper 264	—	—	Lower 4,753	—	5,017	142	—	20	—	5,179	6·04	8
Nulhuttee (1 April to 31 Dec.)	306	130	—	243	2,731	—	3,460	374	36	—	41	3,911	4·86	—
BERAR.														
Oomrawattee	39	56	—	549	—	—	644	66	—	—	—	710	3·64	—
Kumgaun	11	19	—	153	11	—	199	21	—	—	—	220	2·40	—
Total Receipts of Railways	98,741	103,565	36,503	1,250,812	242,739	8,092	1,745,452	180,052	7,636	21,418	127,076	2,081,634	6·20	19,364
„ Indus Steam Flotilla	1,091	156	—	3,059	—	—	4,306	—	—	—	—	4,306	—	138
„ Gross Receipts of Railways and Flotilla	99,832	103,721	36,503	1,253,871	242,739	8,092	1,749,758	180,052	7,636	21,418	127,076	2,085,940	—	19,503

ended 31st December 1872.

Goods Traffic.																	
Receipts from Minerals.			Receipts from General Merchandise (*exclusive* of Live Stock and Minerals).							Total Receipts from Goods Traffic—(G.)	Goods Receipts per Goods Train Mile.	Total Receipts from Passenger and Goods Traffic—(P.)+(G.)	Passenger and Goods Receipts per Train Mile.	Total Miscellaneous Receipts—(M.)	Miscellaneous Receipts per Train Mile.	Total Receipts from Passengers, Goods, and Miscellaneous—(P.)+(G.)+(M.)	Total Receipts per Train Mile
From Coal and Coke.	From Other Minerals.	Total Receipts from Minerals.	From First or Lowest Class.	From Second Class.	From Third Class.	From Fourth Class.	From Fifth or Highest Class.	From Special and Sundry.	Total.								
£	£	£	£	£	£	£	£	£	£	£	*s.*	£	*s.*	£	*s.*	£	*s.*
130,985	8	130,993	—	—	Not returned		—	—	1,447,254	1,579,225	11·88	2,301,108	8·81	135,905	0·52	2,437,013	9·33
—	—	—	—	—	Not returned		—	—	79,753	79,759	11·61	153,045	6·38	67,598	2·82	220,643	9·21
866	—	866	475,588	334,900	148,692	86,544	117,554	5,831	1,169,109	1,177,902	9·45	1,636,914	8·38	29,843	0·15	1,736,757	8·53
—	—	—	99,612	48,650	34,175	29,298	21,781	92,894	326,320	328,091	5·75	546,255	6·28	22,597	0·25	568,852	6·54
1,446	10,975	12,421	60,170	51,483	116,640	6,910	6,106	38,111	283,531	304,510	14·23	503,061	12·16	14,793	0·36	517,854	12·52
—	—	—	60,236	64,722	28,532	29,234	4,786	35,519	223,129	223,177	10·79	412,743	7·37	12,727	0·22	425,475	7·60
—	—	—	17,710	4,011	2,671	701	359	6,320	32,272	32,295	5·27	72,440	5·76	1,554	0·12	74,003	5·88
3,485	2,725	6,210	9,522	37,716	3,106	2,831	560	92,350	146,135	152,396	13·71	244,376	9·42	12,490	0·48	256,866	9·90
77	15	92	2,517	1,046	1,993	1,092	293	8,310	15,251	15,344	5·04	41,356	7·45	920	0·16	42,276	7·62
—	—	—	172	31	13	14	41	126	397	397	1·48	3,398	4·75	80	0·11	3,478	4·87
14	3	17	—	19	—	22	1	2,496	2,537	2,562	2·98	7,742	4·51	649	0·37	8,391	4·89
452	—	452	346	240	386	204	9	13	1,157	1,609	4·00	5,520	6·86	124	0·15	5,644	7·01
—	—	—	288	891	124	9	67	—	1,379	1,379	7·59	2,089	5·53	22	0·05	2,111	5·59
—	—	—	159	684	53	6	11	—	913	913	10·78	1,133	6·42	5	0·02	1,138	6·45
137,325	13,726	151,051	3,729,142						3,729,142	3,809,559	10·24	5,981,194	8·22	299,307	0·41	6,230,501	8·63
—	—	—	64,917						64,917	65,055	—	69,361	—	1,752	—	71,113	—
137,325	13,726	151,051	3,794,059						3,794,059	3,904,614	—	6,050,555	—	301,059	—	6,301,614	—

TABLE No. IV.—EXPENDITURE ON REVENUE ACCOUNT

Railway.	Maintenance and Renewal of Way and Works.				Cost of producing Locomotive Power by Wages and Materials.			Repairs and Renewals of Carriages and Wagons.			Coaching and Merchandise.			Collection and Delivery of Goods.		
	Gross.		Train Mile.	Per cent. of Gross Receipts.	Gross.	Train Mile.	Per cent. of Gross Receipts.	Gross.	Train Mile.	Per cent. of Gross Receipts.	Gross.	Train Mile.	Per cent. of Gross Receipts.	Gross.	Train Mile.	Per cent. of Gross Receipts.
	Ordinary.	Special.														
GUARANTEED.	£	£	d.		£	d.		£	d.		£	d.		£	d.	
East Indian, Main Line	197,891		9	8	277,151	12·7	11	103,216	4·7	4	268,103	12·3	11	Returned under miscellaneous.		
„ Jubbulpore Line	19,466		9·7	8	37,102	18·5	17	8,742	4·3	4	20,555	10·3	9	do.	do.	
Great Indian Peninsula	227,362	12,236	14·3	14	360,425	21·5	21	94,523	5·6	5	174,047	10·4	10	33,404	2	2
Madras	71,207	21,039	12·7	16	98,925	13·6	17	19,939	2·7	4	47,982	6·5	8	Returned under miscellaneous.		
Bombay, Baroda, and Central India.	29,011	44,058	29·8	20	82,740	23·9	16	19,531	5·6	4	43,991	12·7	8	12,970	3·7	2
Scinde, Punjab, and Delhi	63,686	—	11·7	15	125,147	23·1	29	37,008	6·8	9	68,204	12·6	16	7,688	1·4	2
Great Southern of India	10,395	—	9·9	14	15,443	14·7	21	3,545	3·3	5	6,053	5·7	8	Returned under miscellaneous.		
Eastern Bengal	33,673	20,541	27·3	23	31,965	14·7	12	5,789	2·6	2	32,066	14·8	12	2,006	·9	1
Oude and Rohilkund	5,585	—	12	13	9,136	19·7	22	1,458	3·1	3	7,846	16·9	19	Returned under miscellaneous		
Carnatic	579	299	14·7	25	551	9·2	16	72	1·2	2	267	4·4	8	—	—	—
STATE.																
Calcutta and South-eastern	1,918	161	14·5	25	2,408	17·4	30	384	2·6	4	1,495	10·4	18	3	·02	·05
Nulhuttee (1 April to 31 Dec.)	491	112	9	11	1,102	16·4	19	224	3·3	4	853	12·7	15	57	·8	1
BERAR.																
Oomrawattee	Maintained by Government.				694	22	33	188	5·9	9	256	8·1	12	—	—	—
Kamgaun	do.		do.		369	21	27	76	5·1	7	131	8·9	11	—	—	—
Total Expenditure on all the Railways.	794,680		—	12	1,043,188	—	16	294,695	—	5	671,849	—	11	56,218	—	1
Total Expenditure on the Indus Steam Flotilla.																
Total Expenditure																

during Year ended 31st December 1872.

Rates and Taxes.			Compensation for Personal Injury, &c., Damage and Loss of Goods.				Legal and Parliamentary Expenses.			Miscellaneous Working Expenditure, not included in the foregoing.			Total Working Expenditure.		
Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross. Personal.	Gross. Goods.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.
£	d.		£	£	d.		£	d.		£	d.		£	s.	
18,211	·3	·7	189	1,181	·06	·05	433	·02	·02	138,403	6·3	6	1,004,828	3·8	41
347	·1	·1	—	495	·2	·2	9	·00	·00	12,877	6·4	6	99,533	4·1	45
7,595	·4	·4	—	2,731	·1	·1	1,260	·07	·07	88,525	5·3	5	1,092,218	4·9	58
3,732	·5	·6	2,169	34	·3	·3	63	·00	·01	31,815	4·4	6	296,905	3·4	52
2,854	·3	·5	—	389	·1	·07	667	·19	·13	44,343	12·8	9	310,554	7·5	60
586	·1	·1	14	3,642	·6	·8	666	·12	·15	58,275	10·7	14	364,916	5·6	86
482	·4	·6	—	71	·06	·1	7	·00	·00	5,785	5·5	8	41,781	3·3	56
1,253	·5	·4	3	9,235	4·2	3·6	465	·21	·18	22,097	10·2	9	164,093	6·3	64
34	·1	·2	—	—	—	—	—	—	—	4,903	10·6	12	28,902	5·2	69
5	·08	·1	—	—	—	—	—	—	—	542	9·1	16	2,315	3·2	67
150	1	1·8	—	—	—	—	3	·02	·04	1,018	7·1	12	7,030	4·4	91
9	·1	·1	—	—	—	—	—	—	—	377	5·6	7	3,225	4	57
—	—	—	—	—	—	—	—	—	—	—	—	—	1,138	3	54
—	—	—	—	—	—	—	—	—	—	—	—	—	516	2·9	45
35,278	—	·5	2,375	17,778	—	·3	3,623	—	·05	408,960	—	7	3,328,644	4·50	53
													53,034	—	74
													3,381,678	—	53

TABLE No. 5.—FARES and RATES in use on the INDIAN RAILWAYS.

Railway.	Passengers. Fare for travelling One Mile. By First Class.	By Second Class.	By Intermediate Class.	By Third Class.	By Fourth or Cooli Class.	Goods. Rate for conveying One Ton One Mile. Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special.
GUARANTEED.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.
East Indian	18	9	4½	3	—	9	14	18	23	27	—
Great Indian Peninsula	18	9	—	4	2½	10	14	24	34	48	—
Madras — Day	18	5	—	3	2	12	14	18	24	36	8
Madras — Night	22	12	—	4	—						
Bombay, Baroda, and Central India	15	7	—	3 / 4 mail	—	10	14	20	28	40	8
Scinde, Punjaub and Delhi:											
Scinde section	9	5½	—	3½	—	10	14	18	28	42	—
Punjaub section	18	9	4½	3	—	9	14	18	24	28	7
Great Southern of India	12	5	—	2	—	12	14	18	24	36	8
Eastern Bengal	12	6	—	4½	3	9	12	16	24	48	10
Oude and Rohilkund	18	9	—	—	2	7 / 9	14	18	23	27	—
Carnatic	12	6	—	4	—	16 / 12	20 / 14	24 / 18	36 / 24	48 / 36	12 / 10
STATE.											
Calcutta and South-eastern	—	9 Upper	—	3 Lower	—	9	14	18	28	56	9
Nulhuttee	27	13½	—	6¾	3⅜	12	17	23	35	60	12
BEHAR.											
Oomrawuttee	18	9	—	4	2¼	10	14	24	34	48	—
Kamgaun	18	9	—	4	2¼	10	14	24	34	48	—
Indus Steam Flotilla	50	8	—	4	—	7	9	12	16	24	—

TABLE No. 6.—STATEMENT shewing the QUANTITIES of the principal Articles of MERCHANDISE, &c., carried on the GUARANTEED INDIAN RAILWAYS in 1871 and 1872.

Articles.	East Indian.		Great Indian Peninsula.		Madras.		Bombay, Baroda and Central India.		Scinde, Punjaub and Delhi.		Great Southern of India.		Eastern Bengal.		Oude and Rohilkund.		Carnatic.	
	1872.	1871.	1872.	1871.	1872.	1871.	1872.	1871.	1872.	1871.	1872.	1871.	1872.	1871.	1872.	1871.	1872.	1871.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	—	—	1,820	1,133	4,661	4,171	Included in piece goods.		11,754	9,954	1,955	590	—	—	—	—	95	100
Coal	391,691	266,043	736	1,681	837	591	3,560	1,146	—	—	—	—	6,885	11,481	427	166	—	—
Cocoa-nuts	—	—	12,606	9,378	1,620	983	Included in dried fruit.		—	—	—	—	—	—	—	—	25	1
Coffee	—	—	—	—	3,894	6,155	Included in grocery.		57	64	—	—	—	—	—	—	—	—
Cotton	65,346	72,355	63,515	99,048	16,459	17,518	42,525	38,721	12,772	14,907	—	21	251	365	733	262	—	—
Dried Fruits	9,059	6,583	13,110	9,040	—	—	8,937	7,664	6,786	5,721	—	—	—	—	—	—	—	—
Firewood	20,890	17,519	20,761	23,014	12,885	9,884	7,172	5,582	16,255	20,513	—	11	—	—	21	28	310	181
Grain	48,392	30,270	167,947	192,031	13,076	13,571	36,159	41,270	67,424	55,632	26,404	28,578	11,045	7,548	12,897	4,366	26	21
Green Fruits and Vegetables	1,360	1,361	10,632	10,777	3,320	2,594	6,371	5,526	1,517	1,338	4,558	2,464	—	—	613	414	—	—
Hides	32,435	24,333	8,162	1,811	7,443	4,142	Included in sundries in Co's. accounts.		5,119	2,318	852	650	4,709	4,312	925	776	1	—
Iron	See Metals, &c.		—	—	5,275	5,844	Included in metal.		10,565	5,288	—	—	75	71	—	—	—	—
Jagree and Sugar	39,774	78,893	20,494	21,506	12,119	12,260	24,705	26,796	20,326	21,652	—	432	6,733	5,831	607	96	32	11
Jute	—	—	—	—	—	—	—	—	—	—	—	—	103,690	62,407	31	34	—	—
Metal and Hardware	65,840	56,892	24,508	15,335	—	—	4,850	4,549	220	18	—	161	872	659	929	762	—	—
Military Stores	—	—	6,547	3,440	2,884	788	1,503	1,393	10,661	4,327	—	—	833	648	3,187	2,257	—	—
Oil	2,532	1,719	3,183	6,597	6,322	6,553	839	843	2,358	2,421	2,080	2,050	—	—	70	115	45	39
Opium	7,129	7,446	3,838	3,725	—	—	614	631	—	—	—	—	77	69	76	43	—	—
Piece Goods	46,520	53,436	13,739	14,605	—	—	6,179	6,023	12,236	9,954	—	—	10,221	7,442	460	340	—	—
Rice	97,771	113,914	—	—	84,450	64,461	Included in grain.		—	—	—	—	18,993	4,495	—	—	1,549	457
Salt	103,871	95,572	63,846	59,881	43,283	44,368	10,658	4,348	6,409	4,922	13,371	9,777	1,228	1,665	4,847	4,691	1,074	348
Seeds	83,815	87,649	18,011	7,913	15,545	10,489	4,568	3,967	7,873	15,338	4,326	4,016	1,423	3,182	720	972	236	106
Silk	653	648	238	266	—	—	Included in piece goods.		482	287	—	6	225	212	—	—	—	—
Timber	13,509	10,781	9,810	8,357	11,530	9,200	6,852	5,995	4,015	3,214	—	628	—	—	5,033	1,357	—	—
Tobacco	9,815	8,102	2,292	1,946	4,554	4,047	5,170	4,724	838	840	444	402	7,878	3,319	55	16	14	8
Twist	2,185	1,820	103	46	3,351	2,778	1,420	1,325	—	—	—	—	—	—	61	36	24	32
Wines, Spirits, &c.	19,857	16,003	5,479	6,471	1,319	2,909	2,232	1,045	2,773	3,603	—	11	227	337	571	986	1	2
Wool	—	—	158	43	—	—	1,441	984	5,989	5,742	—	—	—	—	—	—	—	—

TABLE No. 7.—NET EARNINGS of the INDIAN RAILWAYS during the Year 1872.

Railway.	Amount.	Per Train Mile.	Per-centage of Receipts.
GUARANTEED.	£		
East Indian, Main Line	1,432,185	5·5	59
" Jubbulpore Line	121,111	5·	55
Great Indian Peninsula	613,823	3·	36
Madras	271,947	3·1	48
Bombay, Baroda, and Central India	207,300	4·5	40
Scinde, Punjaub, and Delhi	60,573	·9	14
Indus Steam Flotilla	18,079	—	25
Great Southern of India	32,222	2·6	44
Eastern Bengal	92,773	3·5	36
Oude and Rohilkund	13,284	2·4	31
Carnatic	1,163	1·6	33
STATE.			
Calcutta and South-eastern	760	·4	9
Nulhuttee	2,419	3·	42
BERAR.			
Oomrawattee	973	2·6	46
Kamgaun	622	3·5	55

TABLE No. 8.—COST and CONSUMPTION of FUEL.

Railway Company.	Coal.					Coke.					Patent Fuel.					Wood.					Total.				
	Quantity in Tons.	Total Cost.	Cost per Ton.	Consumption. Per Train Mile in lbs.	Consumption. Per Vehicle per Mile.	Quantity in Tons.	Total Cost.	Cost per Ton.	Consumption. Per Train Mile in lbs.	Consumption. Per Vehicle per Mile.	Quantity in Tons.	Total Cost.	Cost per Ton.	Consumption. Per Train Mile in lbs.	Consumption. Per Vehicle per Mile.	Quantity in Tons.	Total Cost	Cost per Ton.	Consumption. Per Train Mile in lbs.	Consumption. Per Vehicle per Mile.	Quantity in Tons.	Total Cost.	Average Cost per Ton.	Consumption. Per Train Mile in lbs.	Consumption. Per Vehicle per Mile.
GUARANTEED.		£ s. d.	£ s. d.				£ s. d.	£ s. d.				£ s. d.	£ s. d.				£ s. d.	£ s. d.				£ s. d.	£ s. d.		
East Indian	130,982	51,064 2 11	0 7 9	—	—	3	0 15 7	0 5 2¾	—	—	—	—	—	—	—	33	5 6 10	0 3 3	—	—	131,018	51,070 5 4	—	53·0	·0077
Great Indian Peninsula	72,961	132,492 2 6	1 16 4	40	1·7	5,863	15,979 12 1	2 14 6	3·26	0·14	—	—	—	—	—	2,381	1,552 8 0	1 13 0	1·33	0·07	81,205	150,024 2 7	1 16 11	45·21	1·93
Madras	6,212	10,249 4 4	1 13 0	—	—	1,727	5,065 1 1	2 18 7	—	—	2,059	5,726 8 3	2 3 1	—	—	49,299	20,245 8 6	0 8 3	—	—	59,897	41,286 2 2	0 13 10	77·	5·
Bombay, Baroda, and Central India.	18,907	37,519 13 2	1 19 8	46	1·9	385	708 7 7	1 16 9	0·93	·04	—	—	—	—	—	405	217 16 10	0 10 9	0·99	·04	19,697	38,445 17 7	1 19 0	48·14	1·98
Scinde, Punjaub, and Delhi	5,999	16,594 0 0	2 15 4	10	·5	—	—	—	—	—	77	271 0 0	3 10 5	·133	·006	49,072	35,193 0 0	0 14 5	86·32	4·193	55,148	52,058 0	0 18 10½	96·818	4·711
Great Southern of India	2,131	3,884 7 6	1 16 5	18	—	—	—	—	—	—	1,112	2,090 13 0	1 17 7	9·	—	421	197 2 4	0 9 4	4·	—	3,666	6,172 2 10	1 13 8	31·	—
Eastern Bengal	13,992	10,702 7 11	0 15 3	60	·04	—	—	—	—	—	—	—	—	—	—	40	22 0 0	0 11 0	—	—	14,032	10,724 7 11	—	60·	·04
Oude and Rohilkund	421	1,233 17 6	2 18 7	8	·4	—	—	—	—	—	—	—	—	—	—	4,715	1,972 13 1	0 8 4	95·25	5·17	5,136	3,206 10 7	0 12 6	103·75	5·63
Carnatic	4	10 6 1	2 11 6	1	—	7	17 4 1	2 9 2	1	—	—	—	—	—	—	385	250 16 5	0 13 0	60·	7·	396	278 6 7	0 14 1	62·	·7
STATE.																									
Calcutta and South-eastern	1,080	1,051 18 6	0 19 5	70	1·4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,080	1,051 18 6	—	70·	1·44
Nulhuttee	308	329 18 0	1 1 5	43	1·5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	308	329 18 0	—	43·	1·53
BEHAR.																									
Oomrawattee	170	321 16 5	1 17 10	50	4·4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	170	321 16 5	1 17 10	5·49	4·43
Kamgaun	80	151 8 11	1 17 10	51	3·5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	80	151 8 11	1 17 10	51·08	3·54

LOCOMOTIVES EMPLOYED IN TRAFFIC.

Railway.	Number.	No. of Miles of single line open to each engine.	Average No. of Miles run by each.
East Indian: Main Line	338	5	15,450
,, Jubbulpore Line	37	6	12,947
Great Indian Peninsula	252	6·17	15,964
Madras	118	7·05	14,735
Bombay, Baroda, and Central India	55	7·5	15,044
Scinde, Punjab, and Delhi	66	10·21	19,645
Great Southern of India	21	8·00	11,971
Eastern Bengal	43	3·64	12,065
Oude and Rohilkund	60	4·90	1,848
Carnatic	4	4·75	3,572

Number of LOCOMOTIVES and VEHICLES owned by the Guaranteed Railway Companies.

Railway Company.	Locomotives.			Passenger Carriages.		Goods Trucks and Wagons.		Total Number of Vehicles on 31st December 1872.
	Former Number.	Added in 1872.	Total Number, 31st Dec. 1872.	Former Number.	Added in 1872.	Former Number.	Added in 1872.	
East Indian	535	—	535	923	—	6,844	—	7,767
Great Indian Peninsula	324	5	329	1,261	29	6,461	100	7,851
Madras	126	—	126	310	35	3,272	—	3,617
Bombay, Baroda, and Central India	72	—	72	183	34	2,857	less 6	3,068
Scinde, Punjab, and Delhi	133	—	133	340	—	1,888	—	2,228
Great Southern of India	20	1	21	43	—	341	6	390
Eastern Bengal	43	—	43	150	4	727	62	943
Oude and Rohilkund	28	32	60	95	99	387	34	615
Carnatic	4	—	4	33	—	43	—	76
Total	1,285	38	1,323	3,338	201	22,820	186	26,555

The following relates to each railway separately:—

EAST INDIAN RAILWAY.

Length, 1,504 miles. { Main Line, 1,280 miles. Jubbulpore Line, 224 miles.

56. The works of construction on this line may now be regarded as practically at an end. A large increase of traffic may some day require additional stock, and perhaps a further extent of double line; but the time I apprehend is distant when any capital outlay on these objects will be called for. The expenditure during the past year on capital account was chiefly applied to the final payments for the chord line. It is possible, however, that an encroachment of the river Ganges with which the railway was threatened near Bhaugulpore, on the loop line, may necessitate an alteration which would involve considerable expense. After the heavy rains of last year, the river changed its course and approached from a distance of two miles to within a few feet of the railway. Here it fortunately stopped, and the danger was for the time averted, but there is nothing in the position of the ground or in the nature of the soil to prevent the water reaching the embankment should another heavy flood swell the new channel. It is impossible, however, to answer for the vagaries of Indian rivers, and the Ganges in this case may cut for

itself a new channel elsewhere. In the meantime the present threatened point is being watched.

57. The gross receipts during the year 1872 were 2,657,654*l.* and the expenses 1,104,361*l.*, being a net profit of 1,553,293*l.*, compared with 1,380,380*l.* of 1871.

58. The company were enabled in the first half year to declare an increased dividend by earning 150,695*l.* in excess of the five per cent. guaranteed interest.

GREAT INDIAN PENINSULA RAILWAY.

Length, 1,278¼ miles. { North-east Line and Nagpore Branch, 860 miles. / South-east Line, from Junction, 410 miles.

59. The capital expenditure on this line during the past year amounted to about 217,500*l.* The Kistna viaduct and the terminal station at Bombay are the only important works on the line which now remain to be finished.

60. The traffic during the year shews a falling off, compared with the previous year. In 1872 the gross receipts were 1,716,757*l.* and the expenses (including 100,716*l.* for special funds) 1,102,934*l.*, being a net profit of 613,823*l.* In 1871 the net receipts amounted to 686,068*l.* The decrease is principally in cotton, 39,550 tons less than last year having been conveyed and 172,681*l.* less received than in the previous year. The want of good roads to the stations in the interior is still mentioned as a reason why traffic does not improve.

MADRAS RAILWAY.

Length, 857¾ miles. Open, 835 miles. { South-west Line, 407 miles. / Bangalore Branch, 85 miles. / Neilgherry Branch, 3 miles. / North-west Line, 340 miles.

61. The only work remaining to complete this line is the Neilgherry branch starting from Coimbatoor. Satisfactory progress has been made in India, but there has been an unfortunate delay in obtaining the iron girders for the bridges on the line, owing to an untoward accident which obliged the ship laden with them to go on to Calcutta.

62. The revenue of the line has slightly improved. In 1872 the gross receipts were 568,852*l.* and the expenditure 296,905*l.*, leaving a net profit of 271,947*l.*, compared with 267,608*l.* in 1871.

EASTERN BENGAL RAILWAY.

Length, 158½ miles. Open 156½ miles.

63. The works of construction in this line have consisted principally of those undertaken for the protection of the Goalundo station from the encroachments of the river and of additional waterway where the embankments were injured by the floods of 1871. The Government has recently sanctioned a branch from the main line to Chitpore on the bank of the river. This will be a valuable addition to the undertaking.

64. The traffic is good and promising, but exceptional charges have fallen upon revenue during the past year in connexion with the repairs and restoration works which have reduced the net receipts.

65. The gross receipts for the year were 256,866*l.* and the expenses 164,093*l.*, the net returns being 92,773*l.*, compared with 89,562*l.* for the previous year.

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY.

Length, 389½ miles.

66. This line suffered severely during the monsoon in September last. The bridge over the Par river was swept away by the floods and the bridges across the Orunga and Damaungunga rivers were very much damaged. The traffic was of course stopped, but by the energy and skill of the railway staff, temporary structures were erected by which communication was established within six weeks of the disaster, and all three bridges have since been restored and opened for traffic. The Harbour side terminus for the railway has at length been settled and is in course of being built. The Patree branch, which was constructed for the Government, was opened in May last for the salt traffic.

67. The result of the traffic for the first half of the past year placed the company in the encouraging position of earning an excess beyond the five per cent. guaranteed. The receipts exceeded that amount by 6,030*l.* The interruption of the traffic during the second half, and the cost of restoring some of the works, told disadvantageously against the receipts for that period.

68. The gross receipts for the whole year were 517,854*l.* and the expenses 310,554*l.*, the net receipts being 207,300*l.*, compared with 202,311*l.*, the previous year.

SCINDE, PUNJAB, AND DELHI RAILWAY.

Length, 676 miles { Scinde, 110 miles. / Punjab and Delhi, 566 miles.

Distance traversed by steamers on the River Indus, 500 miles.

69. The floods which produced so damaging an effect upon the bridges over the Sutlej River on this line have been referred to in a former part of this Report. Although the foundations had been laid at a depth of 40 feet below the bed of the river, some of the piers were swept away. Measures were immediately taken to carry on the traffic by the best available means, but the interruption, of course, had a serious effect upon the receipts. The work of restoration has been rapidly going on, and the uninjured piers of the bridges have been strengthened in the manner already explained. The Government has recently expressed its satisfaction at the exertions made by the Company's staff in carrying out these works.

70. In connexion with the Scinde Railway, as well as the Indus Valley, and indeed the whole system of lines in the north-west of India, the capacity and usefulness of the Harbour of Kurrachee are matters of great interest. It is satisfactory therefore to have the following opinions of Mr. W. Parkes, C.E., the Engineer of the Works, and Mr. G. Robertson, Harbour Engineer, who went out specially to examine the harbours of India. Mr. Parkes says:—

"Capacity for number of vessels.—With no further preparation than some "additional moorings, fifty-five to sixty vessels of 500 to 1,200 tons. The natural "facilities for further extension are practically unlimited."

And Mr. Robertson:—

"I believe that, when the works are complete, the Government of India may "be congratulated upon having an excellent harbour at Kurrachee. It is 500 "miles from the nearest good harbour; it is out of the track of cyclones; it is "almost clear of the monsoon, with its attendant wear and tear of goods and "ships during heavy rains; and the construction of the Indus Valley Railway "will put Kurrachee into direct communication with the Punjab."

71. The gross receipts for the year were 496,588*l.*, and the expenses 417,936*l.*, leaving a balance of 60,573*l.* as net receipts, compared with 14,503*l.* of the previous year. During both years, it should be mentioned, the circumstances have been exceptional in consequence of flood damages, and certain charges still remain in suspense until it is settled whether they are to be borne by capital or revenue.

GREAT SOUTHERN OF INDIA RAILWAY.

Length, 384 miles. 168 miles open.

72. No addition has been made to the length of this line, but the works on the extension southward are now being vigorously prosecuted. The estimates for a single track of the metre gauge come to little more than 4,000*l.* a mile, including rolling stock.

73. When the amalgamation of this company with the Carnatic is effected, a continuous line will be formed of 353 miles in length, extending from Madras viâ Belpur, Tanjore, Trichinopoly, Dindigul, Madura, to Tuticorin.

74. The receipts for the year amounted to 73,996*l.*, and the expenses to 41,772*l.*, leaving a net profit of 32,224*l.* A reduction in the passenger fares, in July last, from three to two pies for the third class produced a considerable increase in the numbers; but a slight decrease, which was to be expected at first, occurred in the receipts.

OUDE AND ROHILKUND RAILWAY.

Length, 706 miles. Open, 396 miles.

75. An additional length of 252 miles has been opened on this railway during the year, and 102 miles have been added since, making a total length of 396 miles

now open for traffic. The expenditure hitherto has averaged less than 7,000*l.* a mile, and it is expected that the whole line when completed will not, including the bridges, have cost 9,000*l.* a mile. With regard to the completion I cannot do better than quote the opinion of the late energetic Agent of the Company, Major-General Beadle, who has only recently left Oude:—

"Although we are not entirely out of the difficulties caused by the fallen wells " at the Cawnpore Ganges Bridge, so much has been done in breaking through and " bringing up the obstructing brickwork that much anxiety is not now felt about " the ultimate success of the undersinking of the large and small wells through " these obstructions at four piers, into the firm clay which underlies the sandy " bed; and I see every reason to hope that even this bridge will be completed in " 1875 before the floods season sets in.

"The Ramgunga Bridge and the Ganges Bridge on the Allyghur branch may " be completed two or three months earlier.

"If the girders are received in good time, the Saie and Goomtee Bridges on " the Benares side, which, taken together are nearly equal to a bridge across the " Ganges, will be completed before the floods of 1874, although the revised " designs for these bridges were not settled before the middle of 1872, so rapidly " and successfully has the construction been pushed forward: we may then fairly " expect that the whole system of 547 miles will be open to the public and " completed before the end of 1875."

76. The completion of the bridges will thus be seen to be the key of the opening of the whole line. The necessity for deeper foundations than were at first supposed to be necessary has delayed the execution of the Cawnpore Bridge. Its cost is estimated at 133,000*l.* Those over the Ganges, at Rajghat, and over the Ramgunga, at Bareilly, will cost about 57,000*l.* and 64,000*l.* respectively. It is probable that an arrangement will cost made for the extension by the company of the line from Moradabad to some point on the Delhi Railway.

77. The traffic is, of course, at present small and undeveloped, and that in connexion with the East Indian line will remain under great disadvantages while the bridges are unfinished; but taking into consideration the character of the country through which the line passes, its comparatively small cost and other advantages, great hopes may fairly be entertained of its remunerative capacity.

78. The receipts last year were 42,276*l.*, and the expenses 28,992*l.*, leaving a net profit of 13,284*l.*

CARNATIC RAILWAY.

Length, 147 miles. Open, 18¾ miles.

79. This railway will very shortly be merged into that of the "South India Rail- " way," which will include the lines committed to the Carnatic Company as well as those in the hands of the present Great Southern of India Railway Company. The amalgamation of the two companies, as before stated, will take place as soon as a Bill now before Parliament has become law.

80. This company has hitherto been engaged in making surveys for a line commencing at Madras, and proceeding to Cuddalore. The route has lately been decided on, and the works are being executed.

81. The short branch from Arconum Junction, on the Madras Railway, to Conjeveram has been carrying traffic with hitherto only small results, the net earnings only amounting to 1,163*l.* for the year.

STATE LINES.

82. I have now to refer to the railways undertaken by the Government and termed State Lines, and in doing so I feel that I am encroaching upon the domain of a fellow worker, Mr. Guilford Molesworth, Consulting Engineer to the Government of India for State Railways, who last year gave a full and interesting account of the position of these undertakings. Any attempt on my part to report upon the same subject might therefore appear unnecessary, were it not intended that the paper which I am called upon to prepare should contain a full account of all the proceedings of the Government in connexion with railway communication in India, and of the present position of the lines.

83. I cannot do better, however, than quote Mr. Molesworth's report as much as possible. The following observations, wherever inverted commas appear, are accordingly Mr. Molesworth's own words, and are only supplemented with any additional information which I am in a position to give. Very little, however, has been received during the last six months.

PUNJAB NORTHERN RAILWAY.

84. "The total length of the line will be about 280 miles, exclusive of the length of a branch to the Pindadan-Khan Salt Mines. The line is intended chiefly for political and strategical purposes, but there will be a considerable salt traffic, and Sir Robert Montgomery expressed his belief that it would draw out a trade from Afghanistan and Central Asia, which would in a few years become immensely developed.

"The salt traffic is estimated at about 100,000 tons annually. There will also be hill traffic from Kashmir,—sugar exports, potatoes, limestone, &c.; but almost all authorities agree that the traffic alone will be insufficient to justify the construction of this railway, but that the strategical advantages which it will afford render the construction of the line necessary.

"The country between Lahore and Jhelum is very level, and would present but few natural obstacles to the construction of a railway, were it not for the formidable rivers which have to be crossed. The only heavy earthworks are on the Kharian Pass, which is surmounted by gradients not exceeding 1 in 100. On this pass there are several heavy cuttings in indurated clay, which, though hard as rock, is affected by water. The large rivers of the Ravee, the Chenab, and the Jhelum, have to be crossed by bridges about 17,000 lineal feet in the aggregate. The cost of these bridges, including protective works, is estimated at 1,125,000*l.*

"The cost of the line between Lahore and Jhelum, exclusive of these large bridges and their protective works, will be about 6,400*l.* per mile.

"There are also some minor bridges and large flood openings which are dry except during heavy rains. The railway for the greater portion of its length between Lahore and Jhelum runs on the side of the trunk road, only diverging from it in a few places, the main points of divergence being between Lahore and the Ravee, and at the Kharian Pass.

"With the exception of the large bridges the railway is so far completed that it might have been opened for traffic between the large rivers had it not been for the difficulty of obtaining rails from England; and so many rails are required for sinking the well foundations that the idea of opening for traffic this year must be abandoned. All the minor bridges may be said to be practically finished, with the exception of the Palkoo, the Bhimber, and the special flood gaps which must await the arrival of the iron work from England.

"The country between Jhelum and Rawal Pindee is in parts broken and rugged, but as a very good road has been constructed between those towns, the cost of the railway will not be large, as the railway will, for nearly the whole of that distance, keep to the road. This will, however, involve very heavy gradients and curves. The plans and sections of this length have been sent in and are now under consideration; the steepest gradient is 1 in 27. But it remains to be seen whether a ruling gradient of 1 in 30 cannot be obtained throughout. These gradients are so scattered that it will be difficult to work them as an ordinary incline; special brake arrangements must be adopted on that railway, and the engines must all be fitted with the 'Le Chatelier' counter-pressure brake. Beyond Rawal Pindee there are no special difficulties except the crossing of the River Indus. Opinion is divided respecting the question of crossing this by bridge or tunnel, but surveys have lately been undertaken with the view of deciding this question.

"Two lines have been suggested for the branch to the salt mines at Pindadan-Khan, one from Lalla Moosah, about twelve miles beyond Goozerat, on which the work will be generally light, but which involves a crossing of the Jhelum River; the other alternative line leaves the town of Jhelum and skirts the north bank of the river. The works on this line will be heavy as it crosses some large water drainage. The surveys of the alternative line have not yet been submitted for decision."

INDUS VALLEY RAILWAY.

85. "The Indus Valley Railway will be about 493 miles in length. It branches off from the Punjab and Delhi line between Mooltan and Shershah, but about 6 miles from the former, and having Mooltan as a terminus. It then passes through the fertile district of Shoorabad, near the River Chenab, and thence to Bhawulpoor, crossing the River Sutlej near that city; from thence it passes through Amedpoor, Khanpoor, Dundhi, and Ghotki to Rhoree, where it crosses the River Indus to Sukkur; it then keeps near the right bank of the Indus until it reaches Kotree, the present terminus of the Scinde Railway.

"It is very doubtful whether the Indus Valley will prove to be remunerative as a commercial undertaking, but in a political point of view it is important, as it opens railway communications between the Punjab and the seaboard, being a saving of about 750 miles to Lahore when compared with the present railway communication viâ Bombay and Allahabad. At present, river communication between Kurrachee and Mooltan is so uncertain that when time is an object, it is better to go viâ Bombay rather than risk the delays and contingencies of river transit.

"The local traffic will consist chiefly of grain and agricultural produce. In the Sehwan District the country is extremely rich and well cultivated, and throughout the State of Bhawulpoor there has of late been a large development of the resources of the country by the restoration of irrigation channels; and wherever the influences of the Indus extend, the country is, as a rule, well cultivated, but beyond its influence it is barren and thinly populated: Moreover, the native boats in the river will compete for the traffic that might otherwise go to the railway.

"The works on the line are very light, if we except the bridge over the Sutlej, the bridge over the Indus at Sukkur, and the provision for the spill waters of the Indus. At Sehwan there are some sharp rocks of a shaken character which have to be passed; but with these exceptions the railway may be considered a surface line.

"The bridge over the Indus will be a formidable undertaking, as one of its spans will be about 600 feet in the clear; but on the other hand, the foundations will be rocky, so that there will be no difficulty in this respect."

RAJPOOTANA RAILWAY (Agra Division, 254 miles).

86. "The Agra Division of the Rajpootana Railway commences near the Agra Station of the East Indian Railway, crosses the Jumna to Agra, and passes through Bhurtpoor, Jeypoor, Ajmere, to Nusseerabad; it is of considerable political importance, opening the Rajpootana District and forming a link in the large system which will eventually give direct railway communication between the Bombay Presidency and the North-Western Provinces. The traffic will probably be small until the whole system is completed, but there is a considerable salt traffic at Sambhur and Bhurtpoor.

"The annual exports and imports of Jeypoor and Bhurtpoor are about 70,000 tons, and the custom duties 30,000*l.* per annum.

"The line generally is a light one; the only works of magnitude being the bridge over the Jumna at Agra, about 2,200 lineal feet, to connect the line with the East Indian Railway, and the crossing of some rivers near Jeypoor, in the aggregate about 2,600 lineal feet. The Amanishah, the most formidable of these, is a river subject to a scour of an extraordinary character, which requires special precautions.

"The line between Agra and Sambhur, a length of 185 miles, was let by contract to Messrs. Glover and Company in October 1871."

The earthworks of this portion have been finished. The works on the large bridges had not proceeded very satisfactorily, delay having been partly occasioned by the difficulty in getting country timber for the well curbs.

Permanent way had been delivered for several miles, and some miles have been laid.

The most important bridge is that over the Jumna, at Agra, which consists of 16 spans, 142 feet between centres of piers founded on three wells 12½ feet diameter, sunk 60 feet below the low water level of the river.

RAJPOOTANA RAILWAY (Delhi Division).

87. "The Rajpootana (Delhi) Railway will run from Delhi through Rewaree and Ulwar, making a junction with the Agra Division of the Rajpootana Railway; it opens out the Furucknugger salt district, and will be an important link in the through route from Delhi and the Punjab to the Bombay Presidency. The work is very light on this line, the only works of any magnitude being the crossings of the River Sarubee which, however, will, for the present, be traversed by a temporary causeway. The ruling gradient of this line is 1 in 300, but that of the salt branch is 1 in 100. The plans and estimates for the extension to the junction have just been submitted; Major Stanton recommending Bandikuri instead of Bewai as the point of junction."

HOLKAR STATE RAILWAY.

88. "The Holkar State Railway will be about 86½ miles in length: it commences at Khundwa, a station 352 miles from Bombay, on the main line of the Great Indian Peninsula Railway.

"The line for the first 42 miles is tolerably light, it then crosses the Nerbudda River, and, ascending the Vindhya range of hills by the Choral Pass, reaches Mhow and Indore. There appears to be a greater probability of commercial success on this line than on the majority of the State Railways, especially if the extension be carried out viâ Neemach and Rajpootana to Agra and Delhi. There will be considerable traffic in opium and other agricultural produce, and the railway will open the rich districts of Jowra, Rutlam, and Mundesoor to the Port of Bombay; but in a political point of view it is very important, affording as it does railway communication with the States of Holkar and Scindia, and the imporant military station of Mhow.

"The first 42 miles of the line from Khundwa to the Nerbudda are tolerably light and easy, with ruling gradients of 1 in 100; but the Nerbudda is a rapid river, rising in flood time 66 feet above its ordinary level; it has, however, the advantage of good foundations for its piers. *It is to be spanned by 13 openings of 60 metres from centre to centre of pier, making a total of about 2,560* lineal feet of bridges. After crossing the Nerbudda, the line gradually becomes more and more heavy, until it ascends the Choral incline, with a gradient of 1 in 40 for 3¼ miles. The work on this portion is extremely heavy, including tunnels and heavy rock cuttings, embankments with retaining walls, and viaducts over deep ravines. The cost of the third or ghât division will be about 16,200*l.* per mile, including rolling stock and stations. The average cost of the whole line will be about 11,000*l.* per mile, including the cost of the Nerbudda Bridge, or about 8,700*l.* per mile, excluding the cost of the bridge. The cost of the first division will average about 6,000*l.* per mile.

"The Maharaja Holkar has lent to the British Government 1,000,000*l.* at 4½ per cent. interest, for the construction of this railway.

"The tender of Messrs. Hood, Winton, Mills, and Cag, for the construction of this line was accepted on the 8th of January 1872, and the contractors have since commenced the work with energy."

89. It is expected that 50 miles of this line will be opened during the present year. In anticipation of this event an agreement has been entered into between the managers of the Holkar State Railway and the Great Indian Peninsula Railway Company for the interchange of traffic, and for the provision, maintenance, and working of the junction station at Khundwa, which is to be used in common for both railways.

NIZAM'S RAILWAY.

90. "The Nizam's railway is not only important in a political point of view in affording railway communication to Hyderabad and Secundrabad, but it is expected to develop considerable traffic both in goods and passengers. The value of imports to Hyderabad from British territory is estimated at 400,000*l.* per annum, and there is a large export trade of cotton, sugar, oil, seeds, and grain.

"The length of this railway will be about 120 miles, including a branch of six miles in length, and as it is desirable to work the traffic through the agency of the Great Indian Peninsula Railway Company without break of guage, the standard guage of five feet six inches has been adopted."

91. The permanent way has been obtained from the Great Southern of India Railway, which it was decided should be constructed with light rails on the metre guage, after the materials for a standard guage had been supplied.

MYSORE RAILWAY.

92. As regards railways in the Mysore territory, your Grace hesitated to approve a proposal to devote an expected surplus of almost half a million sterling during the minority of the present Rajah, to the construction of railways, while irrigation works were at the same time urgently required, and you came to the conclusion "that our first choice ought to fall upon irrigation rather than upon railways, "and that so much as may be necessary of the funds at our present and prospec- "tive disposal should be devoted to the improvement and re-establishment of "the ancient system of irrigation, before any outlay is applied to the construc- "tion of a railway."

WARDAH VALLEY RAILWAY.

93. "The Wardah Railway is a branch from the Nagpore section of the Great Indian Peninsula Railway, and as it will probably be worked by that company, it will be constructed for the standard guage of 5 feet 6 inches.

"The object of this branch is two-fold,—1st. to afford railway communication to Hingunghat, a large cotton mart 18 miles distant from the railway, and 2ndly. to open the Chandah coalfields for the supply of the Great Indian Peninsula Railway. The general direction of the line beyond the first 15 miles has not been decided, but projects for alternative lines to the coalfields are under survey."

94. The construction of the line beyond the distance already sanctioned depends, however, upon the result of further investigations into the value and extent of the coal beds in the Wardah Valley, the existing information not being yet conclusive as to the existence of a sufficient supply of good coal to justify the expense of a railway.

PATREE BRANCH.

95. This line, 22 miles in length, is a branch from the Bombay, Baroda, and Central India Railway, and was opened for traffic in salt, (the chief object for which it was constructed) in May last. It is being worked by the railway company under an agreement which is terminable by Government at any time after the line has been opened one year by giving six months notice. The capital expenditure has not been officially reported to this office, but it is said the line has not cost 80,000*l.*, exclusive of rolling stock.

96. The CALCUTTA AND SOUTH EASTERN Railway, 28 miles, the NULHATTEE Railway, 27½ miles, the KAMGAUN Railway, 7½ miles, and the OOMRAWATTEE, 5½ miles in length, have been worked during the year with very moderate success. The first yielded a net revenue of 761*l.*, the second about 3,000*l.*, the next 622*l.*, and the last 973*l.* for the year.

SUMMARY.

97. It now only remains for me to recapitulate briefly the general results given above.

98. The extent of railway communication now open in India amounts to 5,512 miles, of which 305 miles were opened during the year 1872, and 127 since.

99. The quantity of materials sent out last year was small in comparison with previous years, being only 66,534 tons, exclusive of fuel, which however amounted to 116,223 tons. Since the commencement of railway operations in India upwards of 4,500,000 tons of materials, of the value of nearly 30,000,000*l.*, have been despatched from this country.

100. There are 61,940 proprietors of railway stock and debentures, of whom 61,098 are in England and 842 in India. The native holders amount only to 388.

101. As regards accidents, out of 20,332,000 passengers, only one was killed from causes over which they had no control. Eight others were killed and 21 injured in consequence of their own misconduct or want of caution.

102. The amount of guaranteed capital expended up to the 31st March last was 91,686,025*l.*, of which 1,556,440*l.* was used during the past year; 822,994*l.* in England and 679,446*l.* in India. In addition to this, 3,492,323*l.* has been expended on the State Lines, 1,558,836*l.* having been appropriated in the year ending the 31st December last. The whole expenditure thus accounted for is in round numbers 94,500,000*l.*

103. The net revenue for 1872 amounted to 2,869,223*l.*, being slightly in excess of the previous year. The gross receipts were 6,351,617*l.*, and the expenditure 3,482,394*l.* The guaranteed interest advanced by Government during the year was 4,600,883*l.*, being 1,731,600*l.* in excess of the receipts.

104. The passenger traffic produced 2,085,940*l.*, compared with 1,941,571*l.* in the previous year. The receipts from goods and minerals were 3,964,614*l.*, compared with 4,022,615*l.* The number of passengers increased from 18,940,585 to 20,332,823. The increase was entirely in the third and fourth classes, which constituted 93·63 of the whole number. The amount of tonnage conveyed was larger also, being 2,929,637, compared with 2,615,966 in 1871.

105. The expenses of maintaining the lines and working the traffic amounted to 3,482,394*l.*, being 54·66 per cent. of the gross receipts. The maintenance came to 749,178*l.*, and the working expenses to 2,733,216*l.* The expenditure on some of the lines comprised repairs of rain damages, and but for this the revenue would have been better. The working expenses, independently of this, varied considerably on the different railways. On the East Indian main line they were only 41·23 per cent. of the gross receipts; on the Great Indian Peninsula they were 58·35; on the Madras 52·19; on the Bombay, Baroda and Central India 59·96; on the Eastern Bengal 63·85; and on the Scinde and Punjab, 85·68.

106. The number of trains run was 155,594, compared with 131,360 in the previous year. The train mileage was 14,543,862, compared with 14,080,064 of 1871. The train mileage receipts averaged 8·73*s.*, being just about the same as last year. The highest receipts per train mile were on the Bombay, Baroda and Central India Railway, where they reached 12·51*s.* The East Indian were 9·33*s.*, and the Eastern Bengal 9·90*s.* The lowest, viz., 4·9*s.*, were on the Calcutta and South-Eastern.

107. An analysis of the cost of the East Indian Railway main line, the average of which was 21,100*l.* per mile, shows that a great part of the outlay arose from causes which were unavoidable and of an extraordinary character, such as the mutiny, which, directly and indirectly, is estimated to have added 3,000,000*l.* to the capital outlay, the Sonthal rebellion, the plan of commencing operations at various parts of the line simultaneously, and the great difficulty consequent thereon of transporting materials by the road or river. The stupendous bridges, and the large extent of flood openings; the length of double line and of double way constructed, as well as the general firm and substantial character of the works, and the heavy rails and materials used, account also for the rest of the outlay upon what is often erroneously regarded as a single line. Deducting the exceptional expenses above described, which cannot be taken at less than 4,000,000*l.*, the cost per mile of single line would amount to 12,250*l.* A comparison between the circumstances of India now and twenty years ago, the greater knowledge and experience which has been gained in the interval, and the practice at present in vogue of carrying out railway works on a light system, will help to explain the difference between the cost of the lines originally undertaken and those now being executed. The recent examples of the Wudwan and Patree branches in Western India encourage the expectation that in districts tolerably easy for railway operations, even with the 5 ft. 6 in. gauge, single lines may be constructed at a cost of from 6,000*l.* to 3,500*l.* a mile.

I have the honour to be,
My Lord Duke,
Your Grace's very obedient humble servant,
JULAND DANVERS.

APPENDIX BY MR. RENDEL.

These tables are prepared on the same basis as those published in the note by me, appended to Mr. Danvers' Annual Report for 1871.

Actual expenditure only during the half year is included in working expenses, no notice being taken of renewal funds or retentions to meet injuries suffered during the half year, not repaired.

The large item of 28,752*l.* in Jubbulpore, for hire of vehicles, is ignored as not belonging to the half year; and adjustments with Jubbulpore in East Indian main line expenditure and receipts are, for the same reason, expunged.

The Madras Railway Company are unable to supply passenger and goods train mileage separately, but they have returns of vehicle mileage, from which a near approximation can be made. This has been done by assuming 20 vehicles as a standard passenger train, and 30 vehicles as a standard goods train, determining the number of trains of each kind therefrom, and dividing the total traffic train mileage in the resulting proportions. This is the method adopted on the East Indian for dividing mixed trains between passenger and goods. I have omitted reconstruction of Cheyair Bridge from this line's expenses, as it seems likely to be a capital charge.

For the sake of comparison, I have corrected the tables given for Madras for the second half of 1871 on this principle. It is very much to be wished that the Government returns required goods and passenger mileage to be stated separately; and the principle on which mixed mileage is separated to be also stated.

Passenger Traffic.

	East Indian.				G. I. P.		Madras.		Bombay, Baroda, and Central India.	
	Main Line.		Jubbulpore Line.							
	Second half of 1871.	Second half of 1872.	Second half of 1871.	Second half of 1872.	Second half of 1871.	Second half of 1872.	Second half of 1871.	Second half of 1872.	Second half of 1871.	Second half of 1872.
Miles open	No. 1,231	No. 1,231	No. 223½	No. 223½	No. 1,274	No. 1,266	No. 832	No. 832	No. 349½	No. 389
(1.) Average receipts from each passenger train per mile.	s. d. 6 6½	s. d. 6 8½	s. d. 5 5	s. d. 5 8½	s. d. 5 9	s. d. 6 4	s. d. 5 4½	s. d. 5 2	s. d. 9 0½	s. 9
(2.) Average sum received for carrying a passenger (taking all classes together) one mile.	d. ·38	d. ·371	d. ·39	d. ·4	d. ·44	d. ·43	d. ·378	d. ·348	d. ·405	d. ·38
(3.) Average number in any passenger train, at any one time.	No. 206	No. 203	No. 166	No. 171	No. 157	No. 177	No. 170	No. 180	No. 268	No. 283
(4.) Average cost of running a train one mile.	s. d. 3 8½	s. d. 3 4	s. d. 4 1	s. d. 3 10½	s. d. 5 7	s. d. 5 3½	s. d. 2 9½	s. d. 2 10½	s. d. 6 11	s. d. 7 7½
(5.) Average cost of carrying a passenger one mile.	d. ·215	d. ·197	d. ·295	d. ·272	d. ·427	d. ·36	d. ·197	d. ·19	d. ·31	d. ·322
(6.) Average profit on each passenger per mile.	d. ·165	d. ·174	d. ·095	d. ·128	d. ·013	d. ·07	d. ·181	d. ·158	d. ·095	d. ·057
(7.) Average number of passenger trains running over each mile of line, *each* way per diem, (supposing all trains to be through trains)	No. 2·14	No. 2·32	No. 1·43	No. 1·51	No. 1·7	No. 1·73	No. 1·29	No. 1·38	No. 1·5	No. 1·39
(8.) Average number of passengers passing over each mile of line *both* ways, per diem.	No. 382	No. 942	No. 472	No. 518	No. 534	No. 612	No. 437	No. 497	No. 804	No. 735

Goods Traffic.

	East Indian.				G. I. P.		Madras.		Bombay, Baroda, and Central India.	
	Main Line.		Jubbulpore Line.							
	Second half of 1871.	Second half of 1872.	Second half of 1871.	Second half of 1872.	Second half of 1871.	Second half of 1872.	Second half of 1871.	Second half of 1872.	Second half of 1871.	Second half of 1872.
Miles open	No. 1,231	No. 1,231	No. 223½	No. 223½	No. 1,274	No. 1,266	No. 832	No. 832	No. 349½	No. 389
(1.) Average receipts from each goods train per mile.	s. d. 11 4	s. d. 10 1½	s. d. 6 6	s. d. 6 10	s. d. 9 2	s. d. 9 0½	s. d. 6 7	s. d. 6 3	s. d. 10 3	s. d. 9 6
(2.) Average sum received for carrying one ton of goods (taking all classes together) one mile.	d. 1·24	d. 1·15	d. 1·35	d. 1·19	d. 1·59	d. 1·75	d. 1·45	d. 1·28	d. 1·5	d. 1·62
(3.) Average load in tons in any goods train at any one time.	Tons. 109	Tons. 105½	Tons. 68	Tons. 69	Tons. 69	Tons. 62	Tons. 84½	Tons. 69	Tons. 83	Tons. 70
(4.) Average cost of running a train one mile.	s. d. 3 8½	s. d. 3 4	s. d. 4 1	s. d. 3 10½	s. d. 5 7	s. d. 5 3½	s. d. 2 9½	s. d. 2 10½	s. d. 6 11	s. d. 7 7½
(5.) Average cost of carrying a ton of goods one mile.	d. ·406	d. ·38	d. ·72	d. ·674	d. ·97	d. 1·02	d. ·836	d. ·88	d. 1·0	d. 1·31
(6.) Average profit on each ton per mile.	d. ·834	d. ·77	d. ·43	d. ·516	d. ·02	d. ·73	d. ·815	d. ·7	d. ·5	d. ·31
(7.) Average number of goods trains running over each mile of line, *each* way per diem, (supposing all trains to be through trains.)	No. 2·66	No. 2·92	No. 1·13	No. 1·09	No. 2·52	No. 1·84	No. 1·76	No. 1·67	No. 1·54	No. 1·03
(8.) Average number of tons passing over each mile of line *both* ways, per diem.	Tons. 580	Tons. 616	Tons. 154	Tons. 150	Tons. 349	Tons. 228	Tons. 192	Tons. 190	Tons. 252	Tons. 144½

NOTE.—I should observe that the returns for the first half of the year are more favourable in every particular to all the companies I have given the second half because I cannot get at the necessary particulars of the Madras Railway for the first half.

The following Table compiled by Mr. Baynes of the Bombay, Baroda, and Central India Railway, contains some interesting particulars connected with the consumption of coal on the various Indian lines, and bears upon the cost of working.

COMPARATIVE STATEMENT of COST and CONSUMPTION of FUEL, &c. for the Half-year ending 31st December 1872.

	English Coal.			Native Coal.			Wood.			Coke.			Patent Fuel.			Total Fuel.			Fuel consumption per Train Mile.	Train Miles per open Mile.	Gross Receipts per open Mile.	No. of Passengers per open Mile.	Tonnage of Goods per open Mile.
	Quantity.	Cost.	Price per Ton.	Quantity.	Cost.	Price per Ton.	Quantity.	Cost.	Price per Ton.	Quantity.	Cost.	Price per Ton.	Quantity.	Cost.	Price per Ton.	Quantity.	Cost.	Average price per Ton.					
	Tons.	£	£ s. d.	Tons.	£	£ s. d.	Tons.	£	£ s. d.	Tons.	£	£ s. d.	Tons.	£	£ s. d.	Tons.	£	£ s. d.	lbs.		£		
East Indian Railway	—	—	—	60,289	21,106	0 7 0	22	2½	0 2 3	—	—	—	—	—	—	60,311	21,108½	0 7 0	53·38	1,977	853	2,050	380
" Jubbulpore	—	—	—	4,468	6,236	1 7 11	—	—	—	—	—	—	—	—	—	4,468	6,236	1 7 11	46·56	960	†438	530	167
Great Indian Peninsula Railway	25,463	50,580	1 19 8½	4,454	3,675	0 16 6	1,046	676	0 12 11	1,574	4,308	2 14 9	—	—	—	32,537	59,239	1 16 5	44·2	1,290	509	1,257	227
Madras Railway	2,950	4,868	1 13 0	—	—	—	24,971	10,255	0 8 2½	951½	2,791	2 18 8	1,355	2,857	2 2 2	30,227½	20,771	0 13 9	70·47	1,155	335	1,493	224
Bombay, Baroda, and Central India Railway	7,555	*14,782	*1 19 1½	—	—	—	167	90	0 10 9	172	319	1 17 1	—	—	—	7,894	15,191	1 18 6	46·4	979	420	3,641	221
Scinde, Punjab, and Delhi Railway	4,504	12,328	2 14 9	—	—	—	20,823	14,383	0 13 9½	—	—	—	3	9	3 3 4	25,330	26,720	1 1 1	91·56	922	285	1,342	155
Eastern Bengal Railway	—	—	—	7,406	5,009	0 13 6½	25	13	0 10 5	—	—	—	—	—	—	7,431	5,022	0 13 6	62·62	1,698	907	4,704	353

* This includes the cost of carriage over the G.I.P. Railway to Dadur Junction.

† This includes a large special credit from adjustment of accounts.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1873-74.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

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REPORT.

To the Most Honourable the MARQUIS of SALISBURY, Secretary of State for India.

MY LORD MARQUIS, India Office, 28th July 1874.

I HAVE the honour to submit to your Lordship the following Report on Railways in India for the year 1873-74, showing the progress which has been made in their construction, together with the capital expended on them, and the results of the working of those which are open for traffic.

2. At the commencement of last year, 5,384 miles of railway were open. A length of 483 miles has been added since that time, 312 miles during the year 1873, and 171 miles in the present year, making a total length of 5,872 miles, upon which traffic is now carried. Of this, 727 miles consist of double lines, and 5,141 of single, 5,725 miles being constructed on the broad or 5′ 6″ gauge, 28 on a four-feet, and 115 on the narrow or metre gauge. There are now in course of execution 1,033 miles of the metre and 816 of the 5′ 6″ gauge; and 168 miles of the Great Southern are about to be converted to the metre gauge.

3. The principal part of the additional extent opened, viz., 229 miles, belongs to the lines in Oude and Rohilkund. These provinces are now supplied with 523 miles of railway. The system extends from Moradabad on the west to Buxar on the east, and joins the East Indian Railway by means of branches at Allyghur and Cawnpore, where bridges are being constructed over the river Ganges; and at Benares and Buxar, where the communication will be effected by ferries. It is in contemplation to continue the present western extremity at Moradabad to some point, probably Saharunpoor, on the existing railway between Delhi and Lahore.

4. Of the Rajpootana State Railways, 90 miles have also been completed. The section from Delhi to Rewaree, with a branch to the Furrucknugger Salt Works, in all 58½ miles, was opened for salt traffic in February, and for ordinary traffic in July; and the Agra and Bhurtpore section, 32 miles in length, was opened in August last. The progress on the other portions of this system is satisfactory, its completion being dependent upon the large bridges, of which there are several. The revised estimates for these lines show that the cost will now amount to 1,452,000*l.*, or 5,800*l.* per mile.

5. As an instance of cheap and rapid construction, the Dakore branch of the Bombay, Baroda and Central India Railway may be mentioned. The line was commenced in November last, and was opened for passenger traffic on the 8th April. It has cost about 4,000*l.* per mile. It was of course an easy line to construct, but the materials were provided from this country, and the works, which were on the 5′ 6″ with 60 lb. rails scale, could not have been completed in so short a time without great energy on the part of the chief engineer, Mr. Mathew, and his staff.

6. Very satisfactory progress has been made in the Nizam's State Railway, the operations on which have been conducted with considerable energy and skill. The greater part of the line is now ready for the rails, many miles of which have been laid, and it is expected that above 100 miles will be fit to receive an engine by the end of the present year.

7. Amongst the important engineering works completed during the year must be noticed the great viaduct over the Kistnah River. Uninterrupted railway communication is thus established between Madras and Bombay. The bridge, which was designed by Mr. George Berkley, and constructed under the superintendence of Mr. Lindsley, consists of 36 openings of 100 feet span in the clear, or 107 feet

between the centres of the piers. Its length between abutments is 3,848 feet. The maximum height from rail level to low water level is 62 feet. The piers consist of two wrought-iron cylinders, 10 feet in diameter at the base, and 7 feet at the top, placed 11° 11′ apart centre to centre, and filled with concrete. The aggregate weight of iron used was 3,877 tons.

8. The protective works which were being applied to the bridges over some of the larger rivers, such as the Beas, the Sutlej, and the Jumna, have been carried out, and the plan of throwing boulders of stone into the bed of the rivers round the piers seems to have answered. The scour is diverted to where it is harmless, and it is expected that the bridges will now be effectually secured against any damage from future floods.

9. During the past year no injury to railway works has to be reported, except that sustained by the East Indian Railway, between Ghoga and Bhaugulpore, on the loop line, through the encroachment of the river Ganges. The damage done was trifling, and produced little inconvenience, but a diversion of the line for a few miles has become necessary.

10. The following table furnishes particulars as to the length of each line sanctioned and the extent opened :—

	Railway.	Gauge.	Length of Line.	Length opened during 1873.	Length opened since Dec. 1873.	Total Length opened.	Portion laid with Double Line.	Length remaining to be finished.
Guaranteed.	East Indian — Main line	5′ 6″	1,280	—	—	1,280	414¾	—
	East Indian — Jubbulpore line	5′ 6″	223¾	—	—	223¾	—	—
	Great Indian Peninsula	5′ 6″	1,278¼	—	—	1,278¼	287	—
	Madras	5′ 6″	857¾	22¾	—	857¾	—	—
	Bombay, Baroda, and Central India	5′ 6″	406½	—	17	406½	23	—
	Scinde, Punjab, and Delhi	5′ 6″	676	—	—	676	—	—
	Great Southern of India (New South Indian.)	3′ 3⅜″	444¾	—	—	168	—	344¾
	Carnatic (New South Indian.)	3′ 3⅜″	165¾	—	—	18¾		
	Eastern Bengal	5′ 6″	158½	2	—	158½	2¼	—
	Oude and Rohilkund	5′ 6″	695	161	68	523	—	172
	Nulhattee	4′ 0″	27½	—	—	27½	—	—
	Calcutta and South-eastern	5′ 6″	28	—	—	28	—	—
State.	Punjab Northern	–	329	—	—	—	—	329
	Indus Valley	5′ 6″	493	—	—	—	—	493
	Rajpootana	3′ 3⅜″	396	90	—	90	—	306
	Indore to Khundwa (Holkar's)	3′ 3⅜″	86½	—	33	33	—	53½
	Patree branch of Bombay, Baroda, and Central India Railway	5′ 6″	22	22	—	22	—	—
	Wurda Valley	5′ 6″	45	15	—	15	—	30
	Tirhoot	3′ 3⅜″	53	—	53	53	—	—
	BERAR.							
	Khamgaon	5′ 6″	7½	—	—	7½	—	—
	Oomrawuttee	5′ 6″	5½	—	—	5½	—	—
	NIZAM'S GOVERNMENT.							
	Goolburga to Hyderabad	5′ 6″	121	—	—	—	—	121
	Total		7,799½	312	171	5,872¼	727	1,849¼

11. It will be observed that the Indus Valley Railway, which has hitherto been placed among those lines which were to be constructed on the narrow gauge, is now included in the category of those which are to be constructed on the 5′ 6″ gauge. This change has recently been decided by your Lordship in Council on the ground "that it would not be consistent with your duty to allow the "financial expectations," which are "the subjects of much uncertainty," "to "outweigh the great strategic and political dangers which are constantly growing "in importance, and which authorities so high as his Excellency (the Governor "General) and the Commander-in-Chief concur with many others in pressing "upon Her Majesty's Government." With regard to the line from Lahore to Peshawur, instructions are given that "if considerations, derived from the "advanced state of the works, should not," in the judgment of the Viceroy, "be "of sufficient importance to influence his decision, this railway will be con-"structed on the same gauge as the Indus Valley line. Gauge of Indus Valley Railway.

The following statement shows the state of progress since the railways were commenced, and the length which was open at the end of each year from 1853 to 1873:— Annual progress.

Railways.	Length of Line open at the end of each Year.																		
	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.
East Indian Railway (including Jubbulpore).	—	37½	120½	120½	120½	141	284¼	307¼	560½	883¾	937	1,105½	1,120½	1,120½	1,353½	1,353½	1,353½	1,353½	1,503¼	1,503½	1,503½
Great Indian Peninsula.	21½	34½	50½	88½	88½	194½	245½	297½	437½	494½	553	535½	701½	815½	852	870½	875½	1,238½	1,265½	1,278¼	1,278¼
Madras	—	—	—	65¼	80¼	95	95	136	297½	447	447	571	611	645	645	677½	707¼	783	832	832	857¼
Bombay, Baroda, and Central India.	—	—	—	—	—	—	—	85	132	185	185	305½	305½	305½	305½	305½	305½	310½	349½	389½	406½
Scinde	—	—	—	—	—	—	—	—	105½	105½	105½	105½	105½	108½	108½	108½	108½	108½	108½	108½	108½
Punjab	—	—	—	—	—	—	—	—	—	32	45	45	253	253	246	246	246	565½	565½	565½	565½
Delhi	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	53	293½				
Great Southern of India.	—	—	—	—	—	—	—	—	49	79	79	79	79	127	144	168	168	168	168	168	168
Eastern Bengal	—	—	—	—	—	—	—	—	—	110	110	110	110	110	113½	113½	113½	156½	156½	158½	158½
Oude and Rohilkund.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	42	42	42	42	294	523
Carnatic	—	—	—	—	—	—	—	—	—	—	—	—	18½	18½	18½	18½	18½	18½	18½	18½	18½
Calcutta & South-eastern.	—	—	—	—	—	—	—	—	15	28	28	28	28	28	28	28	28	28	28	28	28
Nulhattee	—	—	—	—	—	—	—	—	—	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½
Khamgaon	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7½	7½	7½	7½
Oomrawuttee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5½	5½	5½	5½
Rajpootana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90
Indore	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—	—	—	—	—	33
Patree branch to Bombay, Baroda, & Central India.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22
Wurda Valley	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15
Total	21½	72	171	274½	289¼	430½	624½	836½	1,581½	2,351½	2,516½	2,962½	3,366½	3,568	3,937½	4,017½	4,287½	4,833½	5,078¼	5,383½	5,572

EXTENSIONS AND NEW PROJECTS.

12. The only railway not contemplated at the commencement of the year 1873, but which has since been sanctioned is that which has been provided to meet the exigencies of the famine. It starts near Patna from opposite the Barh station on the East Indian Railway, and extends 53 miles through Tirhoot, where the famine has been very severe, to Durbunga. It has been executed with great despatch under the skilful and energetic superintendence of Captain Stanton, R.E., having been commenced in February and completed in April. Rails and materials intended for the Rajpootana Railway were at hand at Calcutta, and were used for the line. Extensions and new projects.

AMALGAMATION OF GREAT SOUTHERN AND CARNATIC COMPANIES.

13. The Bill for the amalgamation of the Great Southern and the Carnatic Railway companies, which for want of time was withdrawn last session, has just Great Southern and Carnatic Railways amalgamated.

received the Royal assent. The provisions thereof at once come into operation. affairs in India have been conducted under one management for the last six months.

SHIPMENTS ON ACCOUNT OF THE RAILWAYS IN 1873.

Shipments.

14. During the year 118,245 tons of materials for the construction and maintenance of the railways, exclusive of 10 locomotives and 85,499 tons of fuel have been shipped to India. The value of the goods was 1,448,254*l.*, and of the coal, coke, and patent fuel, 116,410*l.*; and it cost 310,549*l.* to send them to their destinations. It will be observed that the freights to Bombay this year were much higher than those to Calcutta. This, combined with the high price of coal in this country, placed the west coast lines to a greater disadvantage even than usual with respect to the cost of working as compared with the East Indian and Eastern Bengal Railways. Of the above quantities, 59,896 tons, of the value of 789,195*l.*, were sent out for the State lines. Two ships were lost, laden with goods for the Great Indian Peninsula, and the Bombay, Baroda and Central India Railways, of the value of 2,814*l.* and 2,604*l.* respectively. Both cargoes were fully insured.

SHIPPING OPERATIONS, exclusive of Fuel, during 1873 on Account of the Guaranteed and State Railways.

Railway.	Number of Ships employed in 1873.	Number of Tons of Goods shipped in 1873.	Value of Goods shipped in 1873.	Amount paid for Freight and Insurance in 1873.	Average Rate of Freight and Insurance per Ton.
		Tons.	£	£	£ s. d.
East Indian	22	3,879	91,075	6,209	1 12 0
Great Indian Peninsula	26	5,064	99,153	12,037	2 1 1
Madras	43	18,571	89,097	29,883	1 12 2
Bombay, Baroda and Central India	56	4,545	72,793	10,305	2 5 4
Scinde, Punjab and Delhi	23	2,114	35,396	5,242	2 9 7
Great Southern of India	16	17,300	149,300	25,649	1 9 8
Eastern Bengal	16	661	14,587	978	1 9 7
Oude and Rohilkund	40	6,035	106,169	5,845	0 19 4
Carnatic	4	605	11,479	1,162	1 18 5
State Railways	160	59,896	789,195	112,467*	1 17 7
Total	404	118,610	1,448,254	209,777	——

Coal and fuel.

Amount and cost of fuel sent out from this Country during the year 1873.

Railway Company.	Number of Tons supplied from England.			Total original Cost.			Sum paid for Freight and Insurance.	Average Cost of each Ton when bought in England.			Average Cost of each Ton delivered in India.		
	Of Coal.	of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.		Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.
				£	£	£	£	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Great Indian Peninsula	51,118	1,625	—	55,721	2,092	—	78,642	21 9	25 9	—	51 7	55 11	—
Madras	12,313	365	53	11,304	311	95	18,616	18 4	17 0	35 10	50 2	64 5	52 10
Bombay, Baroda, & Central India	17,328	—	110	44,791	—	256	Included in cost.	—	—	—	48 3	—	46 6
Scinde, Punjab, and Delhi	931	60	—	2,902	308	—	1,955	—	—	—	—	—	—
Great Southern of India	1,230	—	—	1,630	—	—	1,559	26 6	—	—	55 10	—	—
Totals	82,920	2,050	163	113,348	2,711	341	100,772	—	—	—	—	—	—

* Freight only.

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.	Number of Ships lost.	Number of Tons of Goods shipped.	Value of Goods shipped.
				£
Up to end of 1860	2,605	39	2,094,686	10,431,976
In 1861	407	—	181,621	1,669,443
„ 1862	280	1	138,013	1,487,582
„ 1863	279	2	166,840	1,285,464
„ 1864	233	—	102,318	1,018,164
„ 1865	442	2	199,157	1,729,543
„ 1866	581	7	312,227	2,527,757
„ 1867	512	5	333,329	3,052,652
„ 1868	364	3	188,858	1,849,554
„ 1869	455	1	211,750	1,432,784
„ 1870	461	1	263,449	1,688,209
„ 1871	307	6	168,049	707,765
„ 1872	318	1	66,534	655,822
„ 1873	404	2	201,590	1,561,602
Total	7,648	70	4,628,421	31,098,317

PROPRIETORS OF RAILWAY SECURITIES IN 1873.

Railway proprietors.

15. The number of proprietors of Indian Railway securities on the 31st December 1873 was 62,318, as compared with 61,940 on the same day the year before. Of these, 56,597 consisted of shareholders or stockholders registered in England and 900 registered in India. Of the latter, 421 only were natives. The remaining 4,821 are holders of debentures and debenture stock. The total amount of capital issued at the same date was 94,720,000*l.*, of which 1,282,000*l.* had been subscribed in India.

Railway.	Number of Shareholders on 31st December 1873.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1873.
	Registered in England.			In India.					
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.	Bond.	Stock.	
East Indian	6,949	8,259	15,208	143	159	302	950	898	17,358
Great Indian Peninsula	5,459	7,556	13,015	149	156	305	542	1,426	15,288
Madras	3,327	4,187	7,214	—	—	—	198	—	7,412
Bombay, Baroda, and Central India	2,277	3,860	6,137	10	43	53	345	—	6,535
Scinde, Punjab, and Delhi	3,723	4,873	8,601	72	13	85	—	—	8,686
Great Southern of India	677	954	1,631	—	—	—	10	110	1,751
Eastern Bengal	648	972	1,620	26	20	46	158	138	1,962
Oude and Rohilkund	1,003	1,407	2,410	79	30	109	32	14	2,565
Carnatic	245	516	761	—	—	—	—	—	761
Total	24,008	32,589	56,597	479	421	900	2,235	2,586	62,318

PERSONS EMPLOYED ON THE RAILWAYS.

Persons employed on the lines.

16. It appears from the following table that on the 30th September 1873 the number of persons employed in working the railways, including the Indus Flotilla, connected with the Scinde and Punjab systems, was 75,661. Of these, 2,990, or 3·95 per cent., were Europeans; 2,072, or 2·73, were East Indians, and the rest natives. Efforts continue to be made to train natives to fill positions, such as those held by engineers, engine-drivers, fitters, &c., which have usually been held by Europeans sent out from this country; so that, while the proportion of Europeans to natives is small, still further reduction may in time be expected in the number of the former.

ABSTRACT RETURN of Persons employed on the several open Lines of Railway in India and on the Indus Steam Flotilla on the 30th September 1873.

RAILWAYS.	General Administration, including Agency, Audit, Account, Paymaster's Stores, Medical, Barrack, Printing, Stationery and Police Establishments.				Traffic and Telegraph Departments.				Engineer's Department.				Locomotive and Carriage and Wagon Departments, including Steamboat.				TOTAL.				Number of Miles open.	Number of Stations.
	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.		
GUARANTEED RAILWAYS.																						
Madras	14	32	516	562	29	284	1,821	2,134	29	71	4,051	4,151	149	251	2,168	2,568	221	638	8,556	9,415	858	85
Great-Southern of India	6	14	111	131	1	18	258	277	42	45	781	868	22	39	357	418	71	116	1,507	1,694	168	22
Carnatic	8	3	3	14	—	—	22	22	—	—	29	29	1	1	13	15	4	4	72	80	19	4
Great Indian Peninsula	35	40	417	492	300	184	3,446	3,930	103	35	9,685	9,823	472	96	5,525	6,093	910	355	19,073	20,338	1,266½*c*	133
Bombay, Baroda, and Central India	15	22	126	163	14	48	920	982	20	7	1,932	1,959	70	157	1,186	1,413	119	234	4,164	4,517	411¼	71
East Indian	49	29	1,475	1,553	311	164	5,302	5,777	79	12	7,843	7,934	556	163	5,632	6,351	995	368	20,252	21,615	1,503¾	152
Eastern Bengal	10	3	194	207	69	40	1,457	1,566	17	12	2,027	2,056	65*a*	25*a*	1,293*a*	1,383*a*	161	80	4,971	5,212	158¼	34
Oudh and Rohilkund	14	34	241	289	14	12	772	798	38	11	942	991	49	14	767	830	115	71	2,722	2,908	425¼	56
Punjab and Delhi	50	22	261	333	88	42	1,127	1,257	39	5	3,120	3,164	106	33	2,025	2,164	283	102	6,533	6,918	567	48
Sindh	2	4	52	58	7	25	138	170	2	4	497	503	18	26	385	429	29	59	1,072	1,160	106	10
STATE RAILWAYS.																						
Calcutta and South-Eastern	3*b*	—	14	17	—	1	74	75	1	1	104	106	—	3	33	36	4	5	225	234	28	8
Nulhatee	2*b*	—	10	12	—	1	43	44	—	—	69	69	1	—	58	59	3	1	180	184	27¼	6
Rajpootana, Delhi District	—	—	—	—	9	5	82	96	5	1	298	304	7	2	42	51	21	8	422	451	58	7
Indus Steam Flotilla	1	3	21	25	24	10	541	575	29	18	657	704	—	—	31	31	54	31	1,250	1,335	—	—

a.—There are 17 Europeans, 3 East Indians, and 423 Natives employed in the Steamboat Department.
b.—These draw their pay from other departments of the State.
c.—This is exclusive of the Khamgaon and Oomraotee branches, 13 miles, worked, but not maintained, by the Great Indian Peninsula Railway Company, and of the Mopaai branch, 12 miles opened for coal traffic only.
N.B.—The figures for the Great Indian Peninsula and the Bombay, Baroda, and Central India Railways are exclusive of men temporarily employed on special works.

No. I.

Numerical Return of Casualties, whether by Death, Resignation and Discharge, or Dismissal, amongst the European and East Indian employés on the Railways open for Traffic in India during the Year ending 31st December 1873.

Railways.	General Administration, including Agency, Audit, Account, Paymaster's Stores, Medical, Barrack, Printing, Stationery, and Police Establishments.								Traffic and Telegraph Department.								Engineer's Department.								Locomotive and Carriage and Wagon Departments, including Steam Boat Establishments.								Total.								Mean Mileage open.	Remarks.
	Europeans.				East Indians.				Europeans.				East Indians.				Europeans.				East Indians.				Europeans.				East Indians.				Europeans.				East Indians.					
	No. employed.	No. of Casualties by			No. employed.	No. of Casualties by			No. employed.	No. of Casualties by			No. employed.	No. of Casualties by			No. employed.	No. of Casualties by			No. employed.	No. of Casualties by			No. employed.	No. of Casualties by			No. employed.	No. of Casualties by			No. employed.	No. of Casualties by			No. employed.	No. of Casualties by				
		Death.	Resignation and discharge.	Dismissal.	Total.	Death.	Resignation and discharge.	Dismissal.	Total.	Death.	Resignation and discharge.	Dismissal.	Total.	Death.	Resignation and discharge.	Dismissal.	Total.	Death.	Resignation and discharge.	Dismissal.	Total.	Death.	Resignation and discharge.	Dismissal.	Total.	Death.	Resignation and discharge.	Dismissal.	Total.	Death.	Resignation and discharge.	Dismissal.	Total.	Death.	Resignation and discharge.	Dismissal.	Total.	Death.	Resignation and discharge.	Dismissal.	Total.		
Madras	14	—	1	—	1	31	1	6	—	7	31	—	1	2	3	275	1	28	25	54	31	1	5	1	7	76	1	3	1	5	145	4	18	4	26	276	—	12	4	16	221	5	25	7	37	658	3	49	30	82	843	
Great Southern of India.	12(a)	—	2	—	2	21(a)	—	2	—	2	15	—	—	—	—	245	—	2	2	4	32	—	2	5	7	41	—	6	7	13	36	—	2	5	7	15	—	2	—	2	81	—	6	10	16	104	—	13	9	21	168	(a.) Inclusive of Telegraph Department.
Carnatic	1	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	—	4	—	4	10	—	4	1	5	1	—	—	—	—	1	—	—	—	—	11	—	4	—	4	13	—	4	1	5	19	(b) Exclusive of Telegraph Department.
Great Indian Peninsula	34	1	6	1	8	19	—	1	—	1	383	7	41	19	70	93	1	19	6	26	93	4	10	3	17	25	1	7	—	8	47½	14	84	24	122	112	2	33	5	40	989	20	144	47	217	249	4	60	11	75	1,266	
Bombay, Baroda, and Central India.	10	—	—	—	—	12	—	—	—	—	19	—	2	1	3	47	—	6	1	7	35	3	3	1	7	5	—	1	—	1	71	5	13	6	29	104	1	49	8	57	135	8	23	8	39	228	1	55	9	65	404	
East Indian	51	—	4	2	6	23	—	1	—	1	352	6	37	20	63	166	—	23	15	38	92	3	2	4	9	13	—	2	—	2	706	17	105	40	162	204	3	31	6	40	1,201	26	168	66	260	411	3	57	21	81	1,504	
Eastern Bengal	12⅔	—	2	1	3	2	—	2	—	2	65	—	8	10	18	29	—	7	10	17	19⅓	—	6	—	6	8¾	—	12	—	12	63⅔	2	7	5	14	26	—	4	2	6	160⅓	2	23	16	41	65⅓	—	25	12	37	157	
Calcutta and South-eastern State.	—	—	—	—	—	—	—	—	—	—	1	—	3	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	—	1	1	—	3	—	3	2	—	1	—	1	28	
Nuldutlee State	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27½	
Oudh and Rohilkund	25	—	4	—	4	26	1	7	2	10	38	—	1	—	1	16	—	—	1	1	63	3	20	18	41	25	—	6	3	9	45	4	5	6	15	39	—	6	3	9	161	7	30	24	61	93	1	19	9	29	375	
Punjab and Delhi	38	2	15	5	22	18	1	3	4	8	83	1	15	15	31	40	1	8	10	19	37	—	8	5	13	6	—	4	2	6	117	1	39	26	66	43	—	20	5	25	275	4	77	51	132	105	2	35	21	58	567	
Sindh	3	—	—	—	—	9	1	—	—	1	8	—	—	—	—	24	—	3	—	3	4	—	—	—	—	2	—	—	—	—	18	1	3	1	5	30	—	7	—	7	33	1	3	1	5	65	1	10	—	11	106	
Indus Steam Flotilla	—	—	—	—	—	—	—	—	—	—	24	—	4	—	4	10	—	2	—	2	30	—	2	1	3	20	—	2	—	2	—	—	—	—	—	—	—	—	—	—	54	—	6	1	7	30	—	4	—	4	—	Excluding Telegraph.
Total Madras Railways.	27	—	3	—	3	54	1	8	—	9	32	—	1	2	3	269	1	30	27	58	72	1	11	6	18	130	1	13	9	23	182	4	20	9	33	202	—	14	4	18	313	5	35	17	57	775	3	65	40	108	1,030	
Total Bombay Railways.	44	1	6	1	8	31	—	1	—	1	402	7	46	20	73	140	1	25	7	33	133	7	13	4	24	39	1	8	—	9	545	19	102	30	151	276	3	81	13	97	1,124	34	167	55	256	477	5	115	20	140	1,670	
Total Bengal Railways.	129⅔	2	25	8	35	81	3	13	6	22	561	7	88	45	140	285	1	43	36	80	215⅓	6	38	28	72	7½	—	26	5	31	949⅓	25	159	78	262	324	3	69	16	88	1,885⅓	10	310	159	569	774⅓	7	151	63	221	2,704½	
Total Indian Railways.	200⅔	3	34	9	46	166	4	22	6	32	995	14	135	67	216	724	3	98	70	171	440⅓	14	62	38	114	234½	2	47	14	63	1,676½	48	231	117	446	802	6	164	33	203	3,322⅓	79	512	231	822	2,026½	15	331	123	469	5,404½	

No. II.

STATEMENT showing the NUMBER of SERVANTS EMPLOYED in the TRAFFIC DEPARTMENT of all Railways open for Traffic in India, and the CASUALTIES amongst them, whether by Death, Resignation and Discharge, or Dismissal, during the Year ending 31st December 1873, distinguishing those engaged in India and in England.

RAILWAYS.	ENGAGED IN ENGLAND.										ENGAGED IN INDIA.																						TOTAL.										REMARKS.
	STATION MASTERS, GUARDS, ASSISTANT GUARDS, AND ALL ENGAGED IN WORKING TRAINS.					OTHERS.					STATION MASTERS, GUARDS, ASSISTANT GUARDS, AND ALL ENGAGED IN WORKING TRAINS.								OTHERS.																											
	Europeans.					Europeans.					Europeans.					East Indians.					Europeans.					East Indians.																			
	No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by					
		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.			
Madras	—	—	—	—	—	7	—	—	—	—	17	—	1	2	3	212	—	22	25	47	2	—	—	—	—	—	—	—	—	—	26	—	1	2	3	212	—	22	25	47		
Great Southern of India	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21	—	2	2	4	1	—	—	—	—	3	—	—	—	—	1	—	—	—	—	24	—	2	2	4		
Carnatic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Great Indian Peninsula	10	—	1	—	1	4	—	—	—	—	327	7	41	19	67	81	1	17	5	23	42	—	2	—	2	12	—	2	1	3	383	7	44	19	70	93	1	19	6	26	Inclusive of Telegraph Department.	
Bombay, Baroda, and Central India	—	—	—	—	—	4	—	—	—	—	11	—	2	1	3	28	—	4	—	4	4	—	—	1	—	19	—	2	1	3	19	—	2	1	3	47	—	6	1	7		
East Indian	—	—	—	—	—	3	—	—	—	—	261	4	36	16	56	58	—	4	5	9	78	2	21	4	27	72	—	18	8	26	342	6	57	20	83	130	—	22	13	35		
Eastern Bengal	—	—	—	—	—	2	—	—	—	—	37	—	3	6	9	7	—	4	4	8	26	—	5	4	9	20	—	3	6	9	65	—	8	10	18	27	—	7	10	17	Inclusive of Landing and Shipping Department.	
Calcutta and South-eastern State	—	—	—	—	—	—	—	—	—	—	1	—	3	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	3	—	3	—	—	—	—	—		
Nulhattee State	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Oudh and Rohilkund	—	—	—	—	—	—	—	—	—	—	21	—	—	—	—	14	—	—	1	1	7	—	—	—	—	1	—	—	—	—	28	—	—	—	—	15	—	—	1	1		
Punjab and Delhi	1	—	—	—	—	4	—	—	—	—	67	1	15	15	31	39	1	7	10	18	11	—	—	—	—	1	—	1	—	1	83	1	15	15	31	40	1	8	10	19	Including Telegraph.	
Sindh	—	—	—	—	—	—	—	—	—	—	6	—	—	—	—	5	—	2	—	2	2	—	—	—	—	19	—	1	—	1	8	—	—	—	—	24	—	3	—	3	Ditto.	
Indus Steam Flotilla	—	—	—	—	—	—	—	—	—	—	23	—	4	—	4	7	—	2	—	2	1	—	—	—	—	3	—	—	—	—	24	—	4	—	4	10	—	2	—	2		
TOTAL MADRAS RAILWAY	—	—	—	—	—	7	—	—	—	—	17	—	1	2	3	233	—	24	27	51	3	—	—	—	—	3	—	—	—	—	27	—	1	2	3	236	—	24	27	51		
TOTAL BOMBAY RAILWAYS	10	—	1	—	1	8	—	—	—	—	338	7	43	20	70	109	1	21	5	27	46	—	2	—	2	31	—	4	2	6	402	7	46	20	73	140	1	25	7	33		
TOTAL BENGAL RAILWAYS	1	—	—	—	—	9	—	—	—	—	416	5	61	37	103	130	1	19	20	40	125	2	26	8	36	116	—	23	14	37	551	7	87	45	139	246	1	42	31	77		
TOTAL INDIAN RAILWAYS	11	—	1	—	1	24	—	—	—	—	771	12	105	59	176	472	2	64	52	118	174	2	28	8	38	150	—	27	16	43	980	14	134	67	215	622	2	91	68	161		

No. III.

STATEMENT showing the NUMBER of SERVANTS EMPLOYED in the LOCOMOTIVE and CARRIAGE and WAGON DEPARTMENTS of all Railways open for Traffic in India, and the CASUALTIES amongst them, whether by Death, Resignation and Discharge, or Dismissal, during the Year ending 31st December 1873.

RAILWAYS.	ENGAGED IN ENGLAND.										ENGAGED IN INDIA.																						TOTAL.										REMARKS.
	DRIVERS, FIREMEN, PILOTMEN, AND ALL WORKING ON MOVING ENGINES.					OTHERS.					DRIVERS, FIREMEN, PILOTMEN, AND ALL WORKING ON MOVING ENGINES.								OTHERS.																										
	Europeans.					Europeans.					Europeans.					East Indians.					Europeans.					East Indians.					Europeans.					East Indians.					
	No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				
		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.	
Madras	6	1	—	—	1	21	1	3	—	4	58	—	9	2	11	25	—	4	—	4	60	2	6	2	10	181	—	8	4	12	145	4	18	4	26	276	—	12	4	16	
Great Southern of India	3	—	—	—	—	2	—	—	—	—	20	—	—	4	4	4	—	2	—	2	11	—	2	1	3	11	—	—	—	—	36	—	2	5	7	15	—	2	—	2	
Carnatic	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	
Great Indian Peninsula	45	2	9	3	14	72	1	10	—	11	205	8	22	18	48	52	—	10	4	14	182	3	45	3	49	69	2	23	1	26	474	14	84	24	122	112	2	33	5	40	
Bombay, Baroda, and Central India	21	1	—	2	3	11	1	2	—	3	27	—	9	4	13	10	—	2	—	2	12	3	7	—	10	115	1	40	8	55	71	5	18	6	29	164	1	48	8	57	
East Indian	74	1	7	1	9	71	2	3	—	5	408	9	70	36	115	55	1	6	3	10	83	4	17	3	24	78	—	21	3	24	636	16	97	40	153	144	1	27	6	34	Exclusive of Carriage and Wagon Department.
Eastern Bengal	3½	—	—	—	—	8	1	—	—	1	33½	1	4	3	8	10½	—	2	1	3	18½	—	3	2	5	15½	—	2	1	3	63½	2	7	5	14	26	—	4	2	6	
Calcutta and South-eastern State	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	1	—	1	
Nulhattee State	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Oudh and Rohilkund	4	1	—	—	1	3	—	—	—	—	28	3	5	6	14	16	—	4	—	4	3	—	—	—	—	5	—	—	3	3	33	4	5	6	15	21	—	4	3	7	Exclusive of Carriage Department and Workshop.
Punjab and Delhi	1	—	—	—	—	11	—	1	—	1	79	—	38	23	56	28	—	18	5	23	26	1	5	3	9	15	—	2	—	2	117	1	39	26	66	43	—	20	5	25	
Sindh	—	—	—	—	—	2	—	—	—	—	8	—	1	1	2	1	—	—	—	—	8	1	2	—	3	29	—	7	—	7	18	1	3	1	5	30	—	7	—	7	
Indus Steam Flotilla	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
TOTAL MADRAS RAILWAYS	9	1	—	—	1	23	1	3	—	4	79	—	9	6	15	100	—	6	—	6	71	2	8	3	13	193	—	8	4	12	182	4	20	9	33	292	—	14	4	18	
TOTAL BOMBAY RAILWAYS	66	3	9	5	17	83	2	12	—	14	232	8	31	22	61	71	—	12	4	16	304	6	59	3	59	205	3	69	9	81	546	19	102	30	151	276	3	81	13	97	
TOTAL BENGAL RAILWAYS	82½	2	7	1	10	95	3	4	—	7	556½	13	113	69	195	113½	1	31	9	41	138½	6	27	8	41	152¾	—	32	7	39	872½	24	151	78	253	266	1	63	16	80	
TOTAL INDIAN RAILWAYS	157½	6	16	6	28	201	6	19	—	25	867½	21	153	97	271	284½	1	49	13	63	373½	14	85	14	113	549½	3	109	20	132	1,599½	47	273	117	437	834	4	158	33	195	

CAPITAL EXPENDITURE.

Expenditure during year 1873.

17. A sum of 4,010,343*l.* has been expended on the construction of railways during the year 1873, 2,027,337*l.* by the Government on State lines, and 1,983,009*l.* by the guaranteed companies. Of this amount, 1,469,310*l.* was expended in England,—441,282*l.* by the Government, and 1,028,028*l.* by the companies,—and 2,541,033*l.* in India, 1,586,052*l.* on State lines and 954,981*l.* on guaranteed lines. The companies commenced the year with a balance of 3,565,447*l.*, and left off with one of 2,797,435*l.*

Total expenditure.

18. The whole expenditure on railways in India up to the end of 1873 from the commencement of operations in 1850 has been 97,816,291*l.*, of which 92,417,739*l.* consists of guaranteed capital, and 5,398,552*l.* has been expended direct by Government. The amount expended in each year by the companies is given in a statement which follows. The manner in which such expenditure has been divided amongst the various items comprising the construction accounts is also stated below.

Capital raised by companies.

19. The railway companies had raised up to the end of the official year, viz., the 31st March, a sum of 94,725,815*l.*, which is divided, as follows, into share capital, debentures, and debenture stock:—

	£
Share capital at 5 per cent.	80,282,550
Do. do. 4¾ „	1,349,970
Do. do. 4½ „	500,000
Debentures 5 „	2,611,240
Do. do. 4½ „	1,707,450
Do. do. 4¼ „	1,302,550
Do. do. 4 „	1,324,100
Debenture stock 4½ „	1,925,000
Do. do. 4 „ *3,484,446	3,192,428
Money not bearing interest	530,527
	94,725,815

20. It will thus be seen that at the present time 82,893,790*l.* is receiving interest at 5 per cent., 1,349,970*l.* at 4¾, 4,132,450*l.* at 4½, 1,302,550 at 4¼, and 4,516,528*l.* at 4 per cent. per annum. The sum of 530,527*l.* not bearing interest consists of premiums upon shares or stock which were issued above par. I say at the present time, for the rates of interest on the borrowed capital have varied, and will still vary. During the past year, debentures which were originally issued at 5 per cent. have been renewed at 4. The rate at which debenture stock may hereafter be issued will also depend upon the state of the money market.

How capital has been expended.

Statement showing Distribution of Capital expended.

Railway Company.	Works and Bridges.	Permanent Way and Stations.	Freight and Insurance.	Rolling Stock and Engines.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian	9,580,000	7,140,000	3,000,000	3,650,000	3,730,000	3,550,000
Great Indian Peninsula	9,470,000	7,460,000	—	2,860,000	1,614,000	1,600,000
Madras	3,403,000	3,824,000	—	1,092,000	879,000	446,000
Bombay, Baroda, and Central India	3,205,000	2,093,000	—	1,108,000	777,000	542,000
Scinde, Punjab, and Delhi	2,070,000	3,413,000	—	1,980,320 Steamers and Barges, 377,863 Workshops, 45,504	1,026,000	789,000
Great Southern of India	574,000	475,000	—	102,000	243,000	207,000
Eastern Bengal	2,137,000		—	390,000	326,000	138,000
Oude and Rohilkund	1,078,500	2,084,000	—	367,000	457,000	740,000
Carnatic	7,100	32,000	—	13,700	40,000	33,000

The following statements relating to the capital accounts of the State and guaranteed railways respectively have been prepared in the Accounts' Department of this office:—

* This was issued at an average discount of about 8½ per cent.

Statement No. 1.

Statement of Expenditure in England and India on Indian State Railways, appropriated to the various undertakings as shown in Statements to 31st December 1873, received from India.

State Railway.	Expenditure Appropriated.			Classification of Expenditure.											
	England.	India.	Total.	Preliminary Expenses.	Land.	Construction of Line.	Ballast and Permanent Way.	Stations and Buildings.	Electric Telegraph.	Plant.	Rolling Stock.	Maintenance.	Establishment.	Contingencies.	Suspense Accounts.
State Railways—Extraordinary.	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Punjab, Northern	243,368	1,057,056	1,300,424	24,221	12,850	479,457	195,054	33,697	108	108,744	7,363	—	241,081	8,978	188,871
Indus Valley	84,400	586,073	670,473	58,663	1,788	146,395	14,401	44,913	—	22,279	2,606	—	156,448	8,934	214,096
Hooblee and Carwar	—	52,675	52,675	12,871	—	—	—	—	—	—	—	—	38,149	1,655	—
Wurdah Valley	2,086	129,855	131,941	7,419	41	26,062	70,675	3,749	—	213	—	—	9,939	274	13,569
Holkar	130,528	260,464	390,987	3,252	2,603	118,450	68,900	10,922	—	1,213	16,784	—	59,070	4,040	105,753
Neemuch	—	52,577	52,577	20,333	—	144	—	30	—	800	—	—	28,636	1,347	1,287
Agra District, Rajpootana	152,351	490,378	642,729	16,803	5,016	127,942	74,271	23,975	—	2,463	3,319	—	70,050	3,127	315,763
Delhi do. do.	89,577	394,407	483,984	8,799	18,741	84,607	154,482	37,123	—	6,570	30,432	—	55,777	2,720	84,733
Western Rajpoot*ana* (Survey)	—	12,940	12,940	714	—	—	—	—	—	1,987	—	—	9,143	571	525
Nulhatee	30,000	—	30,000	—	—	*30,000	—	—	—	—	—	—	—	—	—
Calcutta and South-eastern	268,383	463,814	732,197	6,769	103,507	104,597	155,789	87,464	3,693	8,380	133,519	—	86,774	18,766	17,939
Northern Bengal	—	25,929	25,929	2,107	—	1	—	—	—	2,239	—	—	18,984	622	1,976
Scindia (late Gwalior) Survey	—	6,890	6,890	772	—	—	—	—	—	776	—	—	4,566	690	86
Nagpore and Chuteesghur	—	8,441	8,441	1,074	—	—	—	—	—	469	—	—	6,610	227	61
State Railways—Ordinary.															
Moradabad, Deobund, and Roorkee (Survey)	—	2,852	2,852	52	—	—	—	—	—	34	—	—	2,616	150	—
Native States.															
Nizam's	15,000	734,625	749,625	1,057	—	278,700	204,082	10,273	—	27,251	596	—	77,892	3,704	146,070
Khamgaum Branch	—	48,530	48,530	37	39	10,921	29,323	4,638	125	343	32	—	2,838	234	—
Oomraotee Branch	13,316	30,418	43,734	112	245	9,418	25,259	4,844	110	302	15	—	3,806	123	—
Mysore	—	11,624	11,624	550	—	—	—	—	—	831	—	—	9,994	249	—
Total	1,029,004	4,369,548	5,398,552	165,605	149,780	1,416,694	992,236	261,128	4,036	184,894	194,666	—	882,373	56,411	1,090,729

* This amount was paid to the Oude and Rohilkund Railway Company for purchase of the Line.

Note.—The total expenditure in England on State Railways to 31st December 1873 amounted to 1,589,688*l*. The above figures represent only that portion of such expenditure as had been appropriated in India to the several undertakings to the date of the last advices received.

India Office, 8th April 1874.

T. W. Keith,
Accountant.

STATEMENT No. 2.

Showing the Amount of Capital estimated to be required for each Undertaking as now sanctioned, the Amount authorised to be raised, the Amount raised, and the Amount withdrawn, to 31st March 1874.

Railway.	Estimated Cost of Lines.	Amount authorised to be raised on 31st March 1874.						Amount raised in England to 31st March 1874.						Amount raised in India to Date of last Advices.		Total Amount raised to 31st March 1874.	Total Amount withdrawn to 31st March 1874 (partly estimated).
		Share Capital.	Debentures.		Debenture Stock.	Capital not bearing Interest.	Total.	Share Capital.	Debentures.		Debenture Stock.		Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.		
			Convertible into Shares.	Inconvertible.					Convertible into Shares.	Inconvertible.	Stock represented.	Cash received.					
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
East Indian—Main Line -	27,750,000	22,728,360	271,640	2,950,000	1,500,000	160,165	27,610,165	22,350,330	271,640	2,950,000	*1,500,000*	1,500,000	158,827	326,325	1,338	27,558,460	27,769,500
,, Jubbulpore Line -	3,250,000	2,762,750	437,250	—	—	30,034	3,230,034	2,752,100	437,250	—	—	—	30,034	7,665	—	3,227,049	3,151,605
Great Indian Peninsula - -	24,000,000	20,000,000	—	1,304,250	3,065,300	229,602	24,599,152	19,064,125	—	1,304,250	*2,701,450*	2,475,559	228,860	405,047	742	23,478,583	23,366,354
Madras - - -	10,250,000	10,178,700	123,700	500,000	—	9,898	10,812,298	9,531,470	123,700	500,000	—	—	9,898	—	—	10,165,068	10,070,298
Bombay, Baroda, and Central India - - - - -	8,000,000	7,262,700	444,700	—	—	34,832	7,742,232	7,238,756	444,700	—	—	—	34,832	21,672	—	7,739,960	7,837,291
Scinde, Punjab, and Delhi -	10,500,000	11,418,900	—	—	—	3,387	11,422,287	10,989,782	—	—	—	—	3,320	86,253	67	11,079,422	10,286,990
Great Southern of India -	3,000,000	2,390,100	29,800	—	425,000	36,000	2,880,900	2,377,187	29,800	—	*425,000*	425,000	36,000	1,221	—	2,869,208	1,837,542
Eastern Bengal - - - -	3,200,000	2,255,520	—	224,800	398,296	2,288	2,880,904	2,238,996	—	224,800	*398,296*	362,280	2,288	16,486	—	2,844,850	3,071,546
Oude and Rohilkund - -	6,000,000	3,956,100	43,900	615,300	384,700	2,121	5,002,121	3,538,173	43,900	615,300	*384,700*	354,589	2,121	417,890	—	4,971,973	4,856,034
Carnatic - - -	800,000	800,000	—	—	—	22,200	822,200	769,042	—	—	—	—	22,200	—	—	791,242	170,579
Total - -	96,750,000	83,753,130	1,350,990	5,594,350	5,773,296	530,527	97,002,293	80,849,961	1,350,990	5,594,350	*5,409,446*	5,117,428	528,380	1,282,559	2,147	94,725,815	92,417,739

*** These Accounts are subject to modifications; some of them including Expenditure which will be appropriated to Revenue.—J. D.

India Office, 8th April 1874.

T. W. KEITH,
Accountant.

Statement No. 3.

Showing the Amount received from and withdrawn by each Company during the Year ended 31st March 1874.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1873.	Sums advanced to the Companies on the 31st March 1873.	Amount received						Amount withdrawn					Total received during the Year ended 31st March 1874.	Total withdrawn during the Year ended 31st March 1874.
			In England, between 1st April 1873 and 31st March 1874.				In India, between 1st April 1873 and the Date to which Accounts have been received.		In England, between 1st April 1873 and 31st March 1874.		In India.				
			Share Capital.	Debenture.	Debenture Stock.	Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.	On account of Stores, Establishment Charges, &c.	For Discharge of Debentures.	Date to which Accounts have been received.	Amount.	Estimated Withdrawals between Dates specified and 31st March 1874.		
	£	£	£	£	£	£	£	£	£	£		£	£	£	£
East Indian: Main Line.	—	*101,489	2,073	—	—	—	—	—	113,716	—	28th February 1874	†2,092	—	2,073	111,624
East Indian: Jubbulpore Line.	*75,283	—	—	—	—	—	—	—	—	—	„	†161	—	—	†161
Great Indian Peninsula.	391,397	—	—	226,100	—	—	—	—	208,853	226,100	31st January 1874	55,315	15,000	226,100	505,268
Madras - -	151,986	—	2,088	—	—	139	—	—	95,799	—	„	†36,356	—	2,227	59,443
Bombay, Baroda, and Central India.	77,725	—	11,893	—	—	—	—	—	122,557	—	„	58,392	6,000	11,893	186,949
Scinde, Punjab, and Delhi.	842,297	—	—	—	—	—	249	67	50,218	—	31st December 1873	†37	—	316	50,181
Great Southern of India.	1,335,252	—	—	—	—	—	—	—	197,165	—	31st January 1874	86,421	20,000	—	303,586
Eastern Bengal -	—	109,836	—	—	—	—	—	—	18,698	—	28th February 1874	93,162	5,000	—	116,860
Oude and Rohilkund	—	278,034	1,499	615,300	354,589	—	1,000	—	168,122	—	31st January 1874	350,293	60,000	972,388	578,415
Carnatic - -	691,507	—	—	—	—	—	—	—	52,900	—	„	12,944	5,000	—	70,844
Total - -	3,565,447	489,359	17,553	841,400	354,589	139	1,249	67	1,028,028	226,100	—	617,881	111,000	1,214,997	1,983,009

* These Balances are subject to adjustment in respect of Rolling Stock supplied by the Main line for the Jubbulpore line.
† Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c. exceed by these Sums the amount withdrawn in India on Capital Account during the year.

India Office, 8th April 1874.

T. W. Keith,
Accountant.

STATE of DEBENTURE LOANS on the 31st March 1874.

Railway.	Amount. Convertible.	Inconvertible.	Total.	Rate of Interest	Date at which Loan expires.
	£	£			
East Indian	—	10,000		4½	19th March 1875.
"	437,250	—		5	23d March 1875.
"	—	196,150		4½	10th August 1875.
"	—	1,024,600		4½	" "
"	271,640	—		5	9th August 1876.
"	—	96,400		4½	10th August 1877.
"	—	183,450		4½	" "
"	—	1,000,000		4½	22d August 1877.
"	—	440,000		4	19th March 1878.
	708,890	2,950,000	3,658,890		
Great Indian Peninsula	—	1,035,450		5	31st Dec. 1876.
" "	—	268,800		4	30th June 1878.
	—	1,304,250	1,304,250		
Madras	—	500,000		4½	1st January 1876.
"	123,700	—		5	1st January 1877.
	123,700	500,000	623,700		
Bombay, Baroda, and Central India	223,700	—		5	1st January 1875.
" " "	221,000	—		5	1st July 1876.
	444,700	—	444,700		
Great Southern of India	29,800	—	29,800	5	1st July 1874.
Eastern Bengal	—	179,400		5	1st November 1874.
"	—	45,400		5	1st November 1876.
	—	224,800	224,800		
Oude and Rohilkund	43,700	—		5	15th April 1875.
" "	100	—		5	28th July 1876.
" "	100	—		5	18th February 1879.
" "	—	615,300		4	4th June 1880.
	43,900	615,300	659,200		
			6,945,340		

India Office,
8th April 1874.

T. W. KEITH,
Accountant.

STATEMENT of WITHDRAWALS out of CAPITAL for EXPENDITURE; showing the Amount withdrawn in England and in India by all the Guaranteed Indian Railway Companies during each Financial Year from the commencement to 31st March 1874. Annual expenditure.

Year.	England.	India.*	Total.
	£	£	£
1849–50	69,211	6,682	75,893
1850–51	61,164	38,099	99,263
1851–52	154,212	197,111	351,323
1852–53	174,920	252,640	427,560
1853–54	252,484	418,165	670,649
1854–55	960,878	769,278	1,730,156
1855–56	1,935,074	1,431,337	3,366,411
1856–57	1,752,813	1,762,287	3,515,100
1857–58	1,328,243	2,094,825	3,423,068
1858–59	1,941,033	3,551,075	5,492,108
1859–60	2,508,668	4,662,796	7,171,464
1860–61	2,388,315	5,190,400	7,578,715
1861–62	1,597,480	5,004,782	6,602,212
1862–63	1,852,393	4,010,951	5,863,344
1863–64	1,415,146	3,340,507	4,755,653
1864–65	1,396,821	2,725,419	4,122,240
1865–66	2,222,679	3,414,187	5,636,866
1866–67	3,958,357	3,339,346	7,297,703
1867–68	3,924,490	3,195,591	7,120,081
1868–69	1,969,814	2,512,084	4,481,898
1869–70	2,298,680	2,444,171	4,742,851
1870–71	1,899,054	1,877,216	3,776,270
1871–72	886,996	1,609,732	2,496,728
1872–73	822,995	345,750	477,245
1873–74	1,028,028	728,881*	1,756,909*
	38,799,898	54,231,812	93,031,710
Deduct amount withdrawn by the Calcutta and South-eastern Railway Company, this Railway having subsequently become the property of the State	267,362	346,609	613,971
	38,532,536	53,885,203	92,417,739

* These amounts are partly estimated.

† Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by this Sum the amount withdrawn in India on Capital Account.

Note.—The total expenditure in India in each year as shown in the above Statement will not be found to coincide with that shown in the Indian Finance and Revenue Accounts, owing to the fact that the transfers of expenditure to Revenue Account can at present only be made in the books in this country on receipt of the half-yearly Appropriation Statements to June and December, instead of being apportioned each month, as in the Indian Books.

India Office,
8th April 1874.

T. W. KEITH,
Accountant.

Note.—Before leaving the subject of Capital, I may mention that after my last Report had been printed and distributed I discovered that an error had been made in the calculation as to the mileage cost of the East Indian Railway in pp. 23–25. Instead of coming out at 12,250*l.*, to which, after eliminating certain extraordinary and unavoidable expenses, I had brought the cost per mile of single line, it should have been 12,606*l.*

ACCIDENTS.

21. The total number of accidents to passenger trains officially reported during the year was 258, of which 13 were caused by collisions, 20 by trains getting off the proper line, 26 by fires, 165 by cattle trespassing, and 34 by other and minor causes. The number of persons injured was 438. Of these, 96 were passengers, 236 railway servants, and the rest trespassers. There were 166 deaths, 13 passengers, 74 railway servants, and 79 trespassers. In the previous year the number killed was 211, of whom 9 were passengers and 154 servants. Last year three passengers lost their lives through accidents beyond their control, and 54 were injured in the same way. In like manner two railway servants were killed and

28 injured, 72 having been killed and 134 injured by causes which they might have avoided.

22. The most serious accident occurred on the Great Indian Peninsula Railway, near Barsee Road, on the night of the 21st September, when two passengers were killed and ten much injured. It was caused by a defect in the road produced by a washing away of ballast from under the rails and sleepers. "The rails thus "deprived of support, either broke under the weight of the engine or bent so "much as to cause it to leave the road and strike the masonry of the drain, which "it partially carried away, eventually coming to a stand a few yards beyond. "The tender, road van, and six leading 3rd class carriages were smashed to "pieces, the five vehicles being piled on the top of one another.

The following tables, prepared in India, contain detailed information regarding the number and nature of accidents during the year 1873:—

Table No. 1.

Abstract of the Number and Nature of the Accidents and of the Injuries to Life and Limb which have occurred on all Railways open for Traffic in India during the Year 1873.

Presidency.	Mean Mileage open.	Railways.		Classification of Accidents to Trains, &c. — Main Heads. I. Collisions.	II. Getting off proper Line.	III. Fire.	IV. Running over Cattle.	V. Other Causes.	Total.	Passengers. From Causes beyond their own Control. Killed.	Injured.	From their own Misconduct or want of Caution. Killed.	Injured.	Servants of Companies or of Contractors. From Causes beyond their own Control. Killed.	Injured.	From their own Misconduct or want of Caution. Killed.	Injured.	Others. Whilst crossing at Level Crossings. Killed.	Injured.	Whilst trespassing (including Suicide). Killed.	Injured.	Miscellaneous. Killed.	Injured.	Total Persons of all Classes. Killed.	Injured.	Killed and Injured.
Bengal	1,504	East Indian	1873	34	25	15	115	27	216	—	15	6	20	1	5	19	65	3	—	42	10	4	4	75	119	194
	1,503¾		1872	111	233	15	128	204	691	—	15	3	16	4	11	30	36	1	—	46	6	5	1	89	85	174
	157	Eastern Bengal	1873	3	—	—	—	—	3	—	2	—	1	—	—	2	5	—	—	2	—	1	—	5	8	13
	156¼		1872	3	—	—	1	4	8	—	—	—	1	1	1	2	7	—	—	3	—	1	—	7	9	16
	374	Oudh and Rohilkhund	1873	3	5	13	12	3	36	1	13	—	—	1	2	8	7	2	—	1	—	—	—	13	22	35
	145		1872	1	10	4	6	5	26	—	—	—	—	1	2	1	5	—	—	1	—	—	—	3	7	10
	556	Punjab and Delhi	1873	12	24	14	10	16	76	—	—	1	3	—	9	14	7	—	—	4	1	1	—	20	20	40
	554		1872	16	14	63	6	15	114	—	2	4	1	4	3	12	16	—	—	7	—	4	—	31	22	53
	105	Scinde	1873	—	2	14	13	12	41	—	—	1	—	—	2	—	1	—	—	—	—	—	—	1	3	4
	106		1872	—	1	8	9	31	49	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	1
	28	Calcutta and South-eastern.	1873	—	—	—	2	—	2	—	—	—	—	—	—	—	1	1	—	—	—	1	—	2	1	3
	28		1872	—	1	—	4	—	5	—	2	—	—	—	—	1	1	—	—	1	—	—	—	2	3	5
	27¼	Nulhatee	1873	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27		1872	—	—	—	1	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	58	Rajpootana, Delhi District.	1873	2	4	1	5	2	14	—	—	—	—	—	—	1	1	—	—	—	—	—	—	1	1	2
	—		1872	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	33	Rajpootana, Agra District.	1873	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—		1872	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Madras	843	Madras	1873	1	7	5	46	5	64	—	—	—	1	—	—	9	2	—	—	5	1	1	—	15	4	19
	832		1872	4	4	4	42	6	60	1	8	—	—	—	2	9	4	—	—	4	2	1	—	15	16	31
	168	Great Southern of India.	1873	—	—	—	18	1	19	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	2	2
	168		1872	1	1	—	—	1	3	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	1
	19	Carnatic	1873	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19		1872	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bombay	1,279¼	Great Indian Peninsula	1873	18	27	8	40	18	111	2	15	—	2	—	7	13	33	2	1	8	5	1	1	21	64	85
	1,266		1872	14	23	11	72	30	150	—	10	1	2	—	13	24	44	—	—	11	3	2	—	38	72	110
	423¾	Bombay, Baroda, and Central India.	1873	3	9	—	22	4	38	—	9	2	2	—	3	6	11	1	—	1	2	3	1	13	28	41
	374		1872	4	13	—	27	—	44	—	—	—	1	2	3	17	4	1	—	5	—	1	—	26	8	34
India	5,575¾		1873	76	103	70	283	89	621	3	54	10	29	2	28	72	134	9	1	58	20	12	6	166	272	438
	5,179¼		1872	154	300	105	296	298	1,153	1	37	8	21	12	35	96	118	2	—	78	12	14	1	211	224	435

N.B.—The open mileage of the Great Indian Peninsula Railway for the year 1873 is inclusive of the number of miles open on the Khamgaon and Oomraote Branches, and of the Bombay, Baroda, and Central India Railway of the number of miles open on the Dubhoe Branch. The Rajpootana Railway, Delhi District, was opened for public traffic on the 1st July 1873; and the Agra district on the 20th October 1873.

TABLE No. II.—NUMERICAL ABSTRACT of ACCIDENTS OF ALL CLASSES on all Railways open for Traffic in India during the Year 1873.

	BENGAL, NORTH-WESTERN PROVINCES, OUDH, AND PUNJAB, &c.																		MADRAS.						BOMBAY.				Total.		
	East Indian.		Eastern Bengal.		Oudh and Rohilkhund.		Punjab and Delhi.		Scinde.		Calcutta and South-Eastern.		Nulhatee.		Rajpootana. D. District.		Rajpootana. A. District.		Madras.		Great Southern of India.		Carnatic.		Great Indian Peninsula.		Bombay, Baroda, & Central India.				
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed & Injured.
PASSENGERS.																															
From causes beyond their own control, viz.:—																															
From accidents to trains	..	15	..	2	1	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	10	..	9	3	49	52
From other causes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..	5	5
Total	..	15	..	2	1	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	15	..	9	3	54	57
Per million of passengers	..	2·48	..	1·22	0·76	9·92	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·60	4·50	..	2·83	0·13	2·41	2·54
Per million of passenger miles	..	0·03	..	0·03	0·02	0·25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·01	0·09	..	0·08	0·002	0·04	0·04
From their own misconduct or incaution	6	20	..	1	..	..	1	3	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	2	2	10	29	39
Per million of passengers	0·99	3·30	..	0·61	..	..	0·50	1·51	14·29	..	..	..	..	..	..	..	..	..	..	0·36	..	..	..	..	..	0·60	0·63	0·63	0·45	1·29	1·74
Per million of passenger miles	0·01	0·04	..	0·02	..	..	0·01	0·03	0·19	..	..	..	..	..	..	..	..	..	..	0·01	..	..	..	..	..	0·01	0·02	0·02	0·008	0·023	0·031
Total from all causes	6	35	..	3	1	13	1	3	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	17	2	11	13	83	96
SERVANTS OF COMPANIES OR OF CONTRACTORS.																															
From causes beyond their own control	1	5	..	..	1	2	..	9	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	3	2	28	30
From their own misconduct or incaution	19	65	2	5	8	7	14	7	..	1	..	1	..	..	1	1	..	..	9	2	..	1	..	..	13	33	6	11	72	134	206
Total from all causes	20	70	2	5	9	9	14	16	..	3	..	1	..	..	1	1	..	..	9	2	..	1	..	..	13	40	6	14	74	162	236
OTHER PERSONS.																															
Crossing at level crossings	3	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	1	..	9	1	10
Trespassers, including suicide	42	10	2	..	1	..	4	1	..	..	..	..	..	..	..	..	..	..	5	1	..	1	..	..	3	5	1	2	58	20	78
Miscellaneous	4	4	1	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	3	1	12	6	18
Total from all causes	49	14	3	..	3	..	5	1	..	..	2	..	..	..	..	..	..	..	6	1	..	1	..	..	6	7	5	3	79	27	106
Grand total of all classes from all causes	75	119	5	8	13	22	20	20	1	3	2	1	..	..	1	1	..	..	15	4	..	2	..	..	21	64	13	28	166	272	438
Mean length of railway open during the year (miles)	1,504		157		374½		556		105		28		27¼		58		33		813		168		19		1,270½		423¼		5,575¼		
Number of passengers carried	6,059,382		1,623,568		1,310,105		1,982,254		69,922		352,823		77,263		133,206		24,280		2,743,751		1,364,812		102,039		3,333,714		3,175,445		22,362,573		
Train mileage (goods and passengers)	6,121,653		545,881		341,562		1,017,983		157,009		33,684		26,305		32,874		10,882		1,993,661		315,191		15,086		3,666,744		861,099		15,145,205		
Passenger mileage	462,679,866		59,520,120		51,568,978		107,154,100		5,219,582		3,300,216		2,146,080		4,049,980		658,504		119,879,598		50,545,352		1,874,017		269,215,984		118,902,355		1,256,714,732		

TABLE No. II. A.—CLASSIFIED ABSTRACT of ACCIDENTS to SERVANTS of COMPANIES or of CONTRACTORS on all Railways open for Traffic in India during the Year 1873.

CLASSIFICATION.	BENGAL.																		MADRAS.						BOMBAY.				TOTAL.		
	East Indian Railway.		Eastern Bengal Railway.		Oudh and Rohilkhund Railway.		Punjab and Delhi Railway.		Scinde Railway.		Calcutta and South-Eastern Railway.		Nulhutee Railway.		Rajpootana Railway, D. District.		Rajpootana Railway, A. District.		Madras Railway.		Great Southern of India Railway.		Carnatic Railway.		Great Indian Peninsula Railway.		Bombay, Baroda, & Central India Railway.					
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed & Injured.
I.—FROM CAUSES BEYOND THEIR OWN CONTROL, *viz.*:—																															
(*a.*) Servants employed on trains in motion—																															
1. Collisions	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	3	1	9	10
2. Trains running into sidings or off their proper line, through points being wrong	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Trains or engines getting off rails	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	3	3
4. Accidents from defects in rolling stock	..	1	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
5. Miscellaneous	1	..	..	..	..	..	..	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	8	9
Total	1	1	..	..	1	2	..	8	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	3	2	23	25
(*b.*) Servants employed in stations or on line—																															
1. Run over or crushed between buffers while coupling or uncoupling carriages and wagons	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
2. Run over while shunting trains	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Run over or struck while performing their duties	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
4. Miscellaneous	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
Total	..	4	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5
II.—FROM INCAUTION OR MISCONDUCT:—																															
(*a.*) Servants employed on trains in motion—																															
1. Collisions	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	3	..	3
2. Attempting to get upon, or off, or falling from engines or carriages in motion	5	10	..	1	3	4	2	2	..	..	..	..	..	..	1	..	..	..	..	1	..	1	..	..	2	7	..	5	11	31	42
3. Miscellaneous	1	3	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	2	5	7
Total	4	13	1	1	3	4	2	3	..	..	..	..	..	..	1	..	..	..	..	1	..	1	..	..	3	8	2	5	16	36	52
(*b.*) Servants employed in stations or on lines—																															
1. Run over or crushed between buffers while coupling or uncoupling carriages or wagons	..	12	..	2	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	5	1	..	5	20	25
2. Run over or struck while shunting trains	..	11	..	..	..	1	3	1	..	1	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	3	1	2	6	20	26
3. Run over or struck while incautiously standing or walking upon the line	13	13	..	1	3	..	4	2	..	..	..	1	..	..	..	1	..	..	8	..	..	..	..	..	6	6	1	1	35	25	60
4. Miscellaneous	2	16	1	1	..	1	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	11	1	3	10	33	43
Total	15	52	1	4	5	3	12	4	..	1	..	1	..	..	..	1	..	..	9	1	..	..	..	..	10	25	4	6	56	98	154
Grand Total	20	70	2	5	9	9	14	16	..	3	..	1	..	..	1	1	..	..	9	2	..	1	..	..	13	40	6	14	74	162	236
Train mileage	6,121,653		545,881		341,562		1,017,983		157,600		38,634		26,303		32,874		10,822		1,993,661		315,191		15,086		3,668,744		861,099		15,145,205		
Number of servants employed	21,615		5,212		4,284		6,918		1,160		234		184		446		137		9,415		1,694		80		23,611		7,211		82,201		

TABLE No. III.

Showing the TOTAL NUMBER of ACCIDENTS to PERSONS of all kinds, and to TRAINS, &c., on all RAILWAYS open for TRAFFIC in EACH PRESIDENCY of INDIA, during the Year 1873.

Presidencies.		Mean Length of Railway open.	Total Number of Train Miles.	Train Miles per Mile open.	Passenger Mileage.	Passenger Mileage per mile open.	Total Number of Accidents to Trains, &c. of all kinds.	Total Number of Passengers carried.	Average Number of Passengers per Mile opened.	Passengers.		Servants.				Trespassers, &c.		Total.		
												Beyond their own Control.		Within their own Control.						
										Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed and Injured.
Bengal	1873	2,842¾	8,293,424	2,917	696,297,426	244,916	389	11,642,812	4,095	9	54	2	18	44	87	62	15	117	174	291
	1872	2,520¼	7,677,771	3,046	620,680,358	246,302	895	10,480,816	4,159	7	37	10	17	46	65	69	8	132	127	259
Madras	1873	1,030	2,323,938	2,256	172,298,967	167,281	83	4,210,602	4,088	—	1	—	—	9	3	6	2	15	6	21
	1872	1,019	1,997,776	1,961	161,957,279	158,937	64	3,610,896	3,544	1	8	—	2	9	5	5	2	15	17	32
Bombay	1873	1,703	4,527,843	2,659	388,118,339	227,903	149	6,509,159	3,822	4	28	—	10	19	44	11	10	34	92	126
	1872	1,640	4,850,443	2,958	353,925,365	215,808	194	6,299,764	3,841	1	13	2	16	41	48	20	3	64	80	144
India	1873	5,575¾	15,145,205	2,716	1,256,714,732	225,379	621	22,362,573	4,011	13	83	2	28	72	134	79	27	166	272	438
	1872	5,179¼	14,525,990	2,805	1,136,563,002	219,456	1,153	20,391,476	3,937	9	58	12	35	96	118	94	13	211	224	435

REVENUE.

23. The receipts of the railways during the year 1873, after paying all expenses, amounted to 3,185,069*l.*, being 315,846*l.* in excess of the previous year. Net receipts.

24. The gross receipts were 6,742,790*l.*, compared with 6,351,614*l.* of 1872, and the expenses 3,557,721*l.*, or 53 per cent., compared with 3,482,394*l.*, or 55 per cent. Gross receipts.

25. The revenue for each of the last five years and the amounts paid for guaranteed interest in each year have been as follows:— Annual revenue since 1869.

	Revenue.	Guaranteed Interest.
	£	£
1869 - -	2,520,952	4,013,871
1870 - -	2,846,600	4,212,577
1871 - -	2,686,260	4,422,242
1872 - -	2,869,223	4,600,883
1873 - -	3,185,069	4,613,511

26. It will thus be seen that the net amount borne by the state has in the five years averaged 1,550,996*l.* per annum, and that while in the first year of the five the deficiency was 1,492,919*l.*, in the last it was 1,428,442*l.*

27. When it is borne in mind that during this time the open mileage has been increased by about 1,000 miles these results are disappointing.

28. It may be observed, however, that trade for the last few years has not been in a satisfactory or flourishing state. The imports of merchandise show an actual falling off. Trade since 1869.

	Rupees.
In the year 1869–70 they were	32,92,75,198
„ 1872–73 „	31,26,05,614

The exports in the same years were—

1869–70 - -	50,67,95,443
1872–73 - -	53,44,03,833

29. The want of proper access to many of the stations on the lines is also one cause of the slow progress which has hitherto been made in the development of the traffic. When this deficiency has been supplied, and when feeders to the existing lines are constructed, a marked improvement will probably appear. Causes of slow progress.

30. The East Indian Railway, for example, will very likely receive a considerable amount of traffic from the Oude and Rohilkund Railway. The Great Indian Peninsula will be fed by the Indore line, and the Bombay, Baroda, and Central India by the branches to Patree and Dakore, lately constructed at a moderate cost.

31. An enlightened system of management is, however, also required to promote success. A reference to the statements regarding the traffic and working in a following part of this report will show on what lines there is most room for improvement.

32. The following tables give the revenue of each railway for the last two years, and the guaranteed interest paid to each company.

STATEMENT showing the REVENUE from the INDIAN RAILWAYS in 1872 and 1873, as given in the Accounts passed by Government.

Railway.		Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
		Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
GUARANTEED.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.
East Indian: Main Line	1873	749,042 18 8	1,735,554 17 11	94,516 9 4	2,579,114 5 11	200,090 6 4	769,335 9 0	969,425 15 4	38	1,609,688 10 7
	1872	*721,883*	*1,579,225*	*135,905*	*2,437,013*	*197,891*	*806,937*	*1,004,828*	*41*	*1,432,185*
„ Jubbulpore Line	1873	66,944 12 8	89,779 8 9	21,311 16 7	178,035 18 0	21,784 6 10	79,601 15 7	101,386 2 5	57	76,649 15 7
	1872	*73,287*	*79,759*	*67,598*	*220,644*	*19,406*	*80,127*	*99,533*	*45*	*121,111*
Great Indian Peninsula	1873	498,276 19 7	1,203,412 12 6	26,329 15 3	1,728,019 7 4	195,930 13 10	911,505 19 3	1,107,436 13 1	64	620,582 14 3
	1872	*509,042*	*1,477,902*	*29,843*	*1,716,787*	*194,146*	*908,788*	*1,102,934*	*58*	*613,823*
Madras	1873	231,249 1 0	380,524 17 5	19,199 17 6	630,973 15 11	131,355 6 10	227,920 19 7	359,276 6 5	57	271,697 9 6
	1872	*218,164*	*328,091*	*22,397*	*568,652*	*92,246*	*204,659*	*296,905*	*52*	*271,947*
Bombay, Baroda, and Central India	1873	208,898 16 9	288,534 0 11	14,965 6 8	512,398 4 4	84,984 7 3	218,518 13 10	303,503 1 1	59	208,895 3 3
	1872	*198,331*	*304,510*	*14,793*	*517,634*	*103,069*	*207,485*	*310,554*	*60*	*207,300*
Scinde, Punjab, and Delhi	1873	198,790 3 10	270,059 18 5	18,453 1 1	487,303 3 4	67,102 8 3	267,527 10 2	334,629 18 5	69	152,673 4 11
	1872	*189,571*	*223,177*	*12,727*	*425,475*	*63,686*	*301,230*	*364,916*	*86*	*60,559*
„ Indus Steam Flotilla	1873	5,591 17 6	65,430 15 9	91 18 10	71,114 12 1	21,484 3 8	45,078 19 9	66,563 3 5	94	4,551 8 8
	1872	*4,306*	*65,035*	*1,754*	*71,115*	*With working*	*53,034*	*53,034*	*75*	*18,081*
Great Southern of India	1873	49,763 10 11	49,073 0 8	3,176 15 4	102,013 6 11	10,357 11 2	40,351 16 6	50,709 7 8	50	51,303 19 3
	1872	*40,154*	*32,295*	*1,554*	*74,003*	*10,395*	*31,886*	*41,781*	*56*	*32,222*
Carnatic	1873	3,432 8 10	523 8 9	78 0 3	4,033 17 10	746 4 10	1,580 11 10	2,326 16 8	58	1,707 1 2
	1872	*3,001*	*397*	*80*	*3,478*	*878*	*1,487*	*2,315*	*67*	*1,163*
Eastern Bengal	1873	107,393 7 7	154,732 13 8	52,740 14 9	314,866 16 0	28,711 7 11	132,247 11 9	160,958 19 8	51	153,907 16 4
	1872	*91,950*	*152,396*	*12,490*	*256,866*	*59,214*	*104,879*	*164,093*	*64*	*92,773*
Oude and Rohilkund	1873	63,249 3 11	47,192 2 8	1,948 13 11	112,390 0 6	18,826 1 2	63,119 16 5	81,945 17 7	73	30,444 2 11
	1872	*26,012*	*15,344*	*920*	*42,276*	*5,565*	*23,427*	*28,992*	*69*	*13,284*
Totals for Guaranteed Railways	1873	2,182,633 1 3	4,284,817 17 5	252,812 9 6	6,720,263 8 2	781,372 18 1	2,756,789 3 8	3,538,162 1 9	53	3,182,101 6 5
	1872	*2,075,921*	*3,938,151*	*300,261*	*6,314,330*	*746,496*	*2,723,389*	*3,469,885*	*55*	*2,864,448*
STATE.										
Calcutta and South-eastern	1873	5,416 1 11	3,671 15 1	1,119 10 3	10,207 7 3	3,270 9 9	7,198 4 4	10,468 14 1	103	[Loss 261 6 10]
	1872	*5,480*	*2,562*	*649*	*8,391*	*2,079*	*5,551*	*7,630*	*91*	*761*
Nulhuttee	1873	5,683 17 8	2,607 9 5	153 18 9	8,445 5 10	1,099 3 5	3,973 4 0	5,072 7 5	60	3,372 18 5
1 April to 31 December	*1872*	*3,911*	*1,609*	*124*	*5,644*	*603*	*2,622*	*3,225*	*57*	*2,419*
BERAR.										
Oomrawuttee	1873	600 8 5	1,593 2 10	17 16 8	2,211 7 11	466 17 10	2,076 8 5	2,543 6 3	115	[Loss 331 18 4]
	1872	*710*	*1,379*	*22*	*2,111*	*Not returned*	*1,138*	*1,138*	*54*	*973*
Kamgaun	1873	181 14 1	1,470 17 6	10 17 9	1,663 9 4	244 0 4	1,231 3 10	1,475 4 2	89	188 5 2
	1872	*220*	*913*	*5*	*1,138*	*Not returned*	*516*	*516*	*45*	*622*
*Totals for all the Railways	1873	2,194,515 3 4	4,294,161 2 8	254,114 12 11	6,742,790 18 6	786,453 9 5	2,771,268 4 3	3,557,721 13 8	53	3,185,069 4 10
	1872	*2,085,942*	*3,964,614*	*301,061*	*6,351,614*	*749,178*	*2,733,216*	*3,482,394*	*55*	*2,869,223*

Memorandum.—The rate of exchange is 2s. the rupee for the Carnatic, Oude and Rohilkund, Oomrawuttee, and Kamgaun Railways, and 1s. 10*d.* for the others.
* No returns have been received for the Rajpootana State Railway.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

STATEMENT of the Total Amount of INTEREST advanced to each of the under-mentioned Railway Companies to 31st December 1873.

Railway Company.	Interest advanced to 31st December 1872.	Interest advanced during 1873.						Total.
		England.		India.		Total.		
	£ s. d.	£ s. d.		£ s. d.		£ s. d.		£ s. d.
East Indian, Main Line	15,820,402 9 7	1,330,528 1 3		11,624 3 2		1,342,152 4 5		17,162,554 14 0
„ Jubbulpore Line	1,404,320 17 0	159,240 2 11		615 19 10		159,856 2 9		1,564,176 19 9
Great Indian Peninsula	10,145,676 15 8	1,134,687 16 5		12,046 9 3		1,146,734 5 8		11,292,411 1 4
Madras	5,378,908 0 1	500,103 16 9		—		500,103 16 9		5,879,011 16 10
Bombay, Baroda, and Central India	3,537,764 0 8	384,363 4 6		269 10 7		384,632 15 1		3,922,396 15 9
Scinde, Punjab, & Delhi	4,162,132 16 4	550,920 8 1		2,869 3 7		553,789 11 8		4,715,922 8 0
Great Southern of India	746,979 2 2	138,660 8 0		—		138,660 8 0		885,639 10 2
Eastern Bengal	1,197,209 17 0	138,794 17 0		1,073 5 6		139,868 2 6		1,337,077 19 6
Oude and Rohilkund	544,349 14 5	203,425 1 3		5,836 19 0		209,262 0 3		753,611 14 8
Carnatic	81,215 12 3	38,452 1 7		—		38,452 1 7		119,667 13 10
Total	£43,018,959 5 2	4,579,175 17 9		34,335 10 11		4,613,511 8 8		47,632,470 13 10

India Office, 8th April 1874.

T. W. KEITH,
Accountant.

A STATEMENT showing approximately the AMOUNTS advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to the 30th June 1873, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total Amount advanced to 31st December 1873.*	Aggregate of Net Revenue Balances for the several half-years to 30th June 1873, inclusive.	Net Amount advanced.
	£	£	£
East Indian, Main Line	17,162,555	12,693,015	4,469,540
„ Jubbulpore Line	1,564,177	246,374	1,317,803
Great Indian Peninsula	11,292,411	5,727,702	5,564,709
Madras	5,879,012	2,691,268	3,187,744
Bombay, Baroda, and Central India	3,922,397	1,544,395	2,378,002
Scinde, Punjab, and Delhi	4,715,922	290,327	4,425,595
Great Southern of India	885,639	316,029	569,611
Eastern Bengal	1,337,078	806,538	530,540
Oude and Rohilkund	753,612	21,173	732,439
Carnatic	119,668	6,213	113,455
Total	£47,632,471	24,343,033	23,289,438

* The Interest for the half-year to 30th June 1873 not being paid until the succeeding half-year.

India Office, 8th April 1874.

T. W. KEITH,
Accountant.

TRAFFIC AND WORKING.

33. The printed statements given on pp. 29–40 present full details of the traffic and working of the railways during the year 1873. I regret, however, that the failure of the agency of the Oude and Rohilkund Company to furnish the usual statistical returns causes some of the statements to be incomplete. The deductions also cannot, necessarily, be so exact as they otherwise would have been, and strictly accurate comparisons of general results are rendered impossible.

Passenger traffic. 34. It will be seen that 22,243,220 passengers of all classes and 14,584 season ticket holders were carried by upwards of 70,300 trains, and that the number of Goods traffic. miles travelled by these trains was 5,627,183. The goods conveyed amounted to 3,266,062 tons of merchandize and 669,826 tons of minerals, which were placed in 111,000 trains, and the miles travelled by these trains were 9,020,705 and 200,917 respectively.

Expenses. 35. The cost of doing this work amounted to 3,491,158*l.*, being 25·3*l.* per train, and 4·46*s.* per train mile.

36. The gross receipts, exclusive of the Indus Flotilla, amounted to 6,671,676*l.*, being 48·34*l.* per train, and 7·82*s.* per train mile.

37. The receipts from passengers last year, including the Indus Flotilla, were 2,194,607*l.*, compared with 2,085,340*l.* of the year 1872. The receipts from goods were 4,292,005*l.*, compared with 3,964,614*l.* of the previous year.

38. The number of passengers carried last year was nearly 2,000,000 in excess of the previous year. The usual proportion of classes is preserved, but the absence of the Oude and Rohilkund returns prevents the exact ratio being arrived at.

39. Comparing last year's returns with those of 1869, five years ago, the results are as follows, viz.:—

NUMBERS.

Year.	1st Class.	2nd Class.	3rd and 4th Class.	Total.
1869 - - -	137,762	626,355	15,247,516	16,011,633
1873 - - -	142,086*	544,302*	20,254,433*	22,243,220†

RECEIPTS.

	£	£	£	£
1869 - - -	92,600	133,773	1,263,481	1,496,117
1873 - - -	90,998*	100,675*	1,614,597*	2,194,607†

40. The goods traffic last year exceeded the amounts conveyed in 1872 by 336,465 tons, and that of 1869 by 230,524 tons only, the receipts in 1873 being 4,292,000*l.* compared with 3,705,364*l.* in 1869.

41. The passenger traffic has thus been increasing at the rate of about 1,231,000 in numbers, and 139,698*l.* in receipts yearly. The goods traffic fluctuates very much, and on the average has only increased in amount at the rate of 46,100 tons while the receipts have increased at the rate of 115,327*l.* per annum.

42. This cannot be regarded as satisfactory progress, especially when the increased mileage is borne in mind.

43. Very useful results are gained by comparing the working of one line with another; for after making every allowance for variety of circumstances, a great deal will be found to depend upon management, in which, of course, must be included a fair and accommodating tariff of rates and fares. It is easy to show in one case that the cost of fuel is much greater, and in another that the up and down traffic of a line is very unequal as compared with others, but if it can be shown that the train loads on one are much less than on another, that the dead weight compared with the paying load is higher, and that the average cost of maintenance per train mile is greater, there is proof that one is under more skilful or energetic

* Exclusive of the Oude and Rohilkund passengers not returned.
† Inclusive of the Oude and Rohilkund passengers, taken from half-yearly return of total numbers.

management than another. I would draw particular attention to the discrepancies and disparities in these items of expenditure on the different lines, which are similar in character, and which need not necessarily show such diversity; and I would remark generally that the careful and vigilant attention of all those concerned in the management of the railways is urgently required to improve receipts and to diminish expenditure. In some circumstances the incentive of self-interest may be advantageously employed to produce good results. As an example of what care, stimulated by the hope of reward, will effect, it may be mentioned that during the last three years, when bonuses on a regulated scale have been given to firemen and drivers on the East Indian Railway for economy in the use of fuel, the average consumption of fuel per engine mile fell from 61⅓ lbs. to 46⅓ lbs., showing a saving of 15 lbs. per mile. The whole amount saved during this period was, according to the report of the locomotive superintendent, 133,922 tons, which at 10*s.* per ton would represent 66,961*l.* The amount paid to the drivers and firemen was about 780*l.*

Expenditure on different lines.

44. In referring to the management of the East Indian Railway, the Government bear the following testimony,—"the rates for the carriage of certain staples "have been reduced; local agencies have been established in some places as an "experimental measure; tables of vernacular rates have been prepared for all "stations and have been circulated in the districts. Overcharges and claims are "promptly settled and goods are rapidly delivered." This was written before the work in connection with the movement of grain began.

45. The most striking feature in the traffic of the years 1873 and 1874 is the very large movement of grain to those stations on the East Indian and Eastern Bengal Railways which are situated in, or which are close to, the districts where scarcity existed. This movement has had only a trifling effect upon the receipts of the year to which this report relates, but it has had a great influence over the results of the current half-year. During the year 1872, the quantity of grain conveyed on the East Indian, Eastern Bengal, and Punjab and Delhi Railways amounted to 254,213 tons. In 1873 it rose to 477,528 tons. The traffic was also stimulated by the reduction in the rate of conveyance, while the railway receipts were unaffected by the lower charge, in consequence of the Government making up the difference between that and the usual rate. During the first five months of the present year about 544,233 tons of food grains have been conveyed by railway from Calcutta and from the Punjab to the famine-stricken districts. By no other means, probably, could so large a quantity have been transported from one part of India to another. Additional proof is thus given of the great importance of railway communication. Without it the exertions of Government and the outlay incurred must have been increased tenfold. With railways and a well-conceived system of irrigation, famines may become unknown, although seasons of scarcity may occasionally occur. In other staples, such as cotton, sugar, hides, &c., the traffic has diminished, and piece-goods have been nearly stationary. Salt increased on all the lines, except the Great Southern of India, and the jute conveyed on the Eastern Bengal Railway rose from 103,691 tons in 1872 to 124,049 tons in 1873.

Traffic in grain during 1873 and 1874.

46. We have our holidays, and royal visitors, and festive gatherings in this country to produce traffic on the railways. In India the same things occur, but there are also religious pilgrimages and festivals and certain customs peculiar to the country, which, as affecting the traffic, it may be worth while to mention. During the past year the passenger traffic on the lines in Western India has been less, in consequence of the suspension of marriages and the absence of marriage feasts, the year 1872–73 being the one out of every twelfth year in which no marriages take place amongst Hindoos living between the rivers Kistna and Godavery. Another example was a great bathing festival at the Ganges on the occasion of the eclipse of the moon, when special trains on the Oude and Rohilcund Railway brought large numbers to the river.

How traffic is affected.

47. As experience is gained various contrivances are suggested for improving the comfort and convenience and for meeting the requirements of passengers. An apparatus for cooling carriages in the hottest weather is now fixed to a certain number in each train. Several plans have been tried, and after trial the best will be adopted. Tinted glass in the windows has also been found to give relief from the glare. The accommodation provided for sleeping during long journeys and other conveniences help to reduce the fatigue of travelling in a tropical climate.

Contrivances for giving comfort to travellers.

The greatest enemy to comfort is the dust, which is to a certain extent subdued by the tatties used for cooling the sides of the carriages.

Rates and fares on State lines.

48. On the State Railways which have been opened in Rajpootana a novel principle is being tried in fixing the rates and fares. Instead of making the charge depend upon a mileage rate, a station to station rate is adopted, irrespective of actual mileage, and a low scale is taken. With regard to goods, they are divided into three classes only, a special class, however, being provided below the ordinary lowest class to which articles in any of the other classes may be transferred, if desirable.

TABLE A.—NET EARNINGS of the INDIAN RAILWAYS during 1873.

Railway.	Amount.	Per Train Mile.	Per-centage of gross Receipts.
GUARANTEED.	£		
East Indian, Main Line - -	1,609,688	5·6	62
„ Jubbulpore Line -	76,650	3·4	43
Great Indian Peninsula - -	620,582	3·3	36
Madras - - - - -	271,697	2·7	43
Bombay, Baroda, and Central India -	208,895	4·3	41
Scinde, Punjaub, and Delhi - -	152,673	2·2	31
„ Indus Steam Flotilla -	4,551	—	6
Great Southern of India - -	51,304	3·2	50
Eastern Bengal - - -	153,907	5·4	49
Oude and Rohilkund - - -	30,444	—	27
Carnatic - - - - -	1,707	2·3	42
STATE.			
Calcutta and South-eastern - -	[Loss 261]	—	—
Nulhuttee - - - - -	3,373	2·5	40
BERAR.			
Oomrawuttee - - -	[Loss 332	—	—
Kumgaun - - - - -	188	2·3	11

TABLE B.—FARES and RATES in use on the INDIAN RAILWAYS.

Railway.	Passengers. Fare for travelling One Mile. First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Goods. Rate for conveying One Ton One Mile. Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special.
GUARANTEED.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.
East Indian	18	9	4½	3	—	9	14	18	23	27	Various.
Great Indian Peninsula	18	9	—	4	2½	10	14	24	34	48	Lower than 10
Madras { by Day	15	5	—	3	2	12	14	18	24	36	8
Madras { by Night	15	8	—	4	—						
Bombay, Baroda, and Central India	15	7	—	4 mail 3 ord.	—	10	14	20	28	40	8
Scinde, Punjaub, and Delhi:											
Punjaub section	18	9	4½	3	—	10	14	18	23	27	Various.
Scinde section	9	5½	—	3½	—					41	
Great Southern of India	12	5	—	2	—	12	14	18	24	36	10 to 5
Eastern Bengal	12	6	—	4½	3	9	14	18	28	56	9
Oude and Rohilkund	9	—	—	Lower Class	2	9	13.62	18.16	22.7	27.25	6
Reserved	36	—	—	Reserved	3						
Carnatic	12	6	—	4	—	12	14	18	24	36	10
STATE.											
Calcutta and South-eastern	—	9 Upper	—	—	3 Lower	No classified rates for goods.					
Nulhuttee	27½	14	7	4	—	11	17	23	35	60	8
BERAR.											
Oomrawuttee	18	9	—	4	2½	10	14	24	34	48	—
Kamgaun	18	9	—	4	2½	10	14	24	34	48	Less than 10

TABLE C.—STATEMENT showing the QUANTITIES in Tons of the principal Articles of MERCHANDISE, &c., carried on the INDIAN RAILWAYS in 1872 and 1873.

Articles.	East Indian.		Great Indian Peninsula.		Madras.		Bombay, Baroda, and Central India.		Scinde, Punjaub, and Delhi, including Flotilla.		Great Southern of India.		Eastern Bengal.		Oude and Rohilkund.		Carnatic.	
	1873.	1872.	1873.	1872.	1873.	1872.	1873.	1872.	1873.	1872.	1873.	1872.	1873.	1872.	1873.	1872.	1873.	1872.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	With piece goods.		—	—	5,466	4,661	With piece goods		With piece goods.		2,093	1,955	—	—	—	—	99	95
Coal	418,090	310,793	1,524	736	817	837	2,067	3,560	3	—	—	—	11,289	6,385	—	—	—	—
Cocoa-nuts	With dry fruit.		8,821	12,606	2,393	1,620	3,737	With dry fruit.	—	—	—	—	—	—	—	—	5	25
Coffee	—	—	—	—	5,250	3,894	25	—	85	57	—	—	—	—	—	—	—	—
Cotton	46,900	65,345	84,252	63,515	19,328	16,459	37,969	42,525	7,116	12,772	—	—	427	251	—	—	—	—
Dry Fruit	7,741	9,059	12,225	13,110	—	—	6,072	8,937	6,249	6,786	—	—	—	—	—	—	—	—
Firewood	32,301	21,000	16,601	20,761	10,446	12,885	8,412	7,172	24,938	16,255	—	—	—	—	—	—	520	310
Grain	188,261	48,392	133,851	167,947	24,735	13,076	27,284	36,159	138,596	67,424	32,312	26,404	11,611	11,045	—	—	42	26
Green Fruit and Vegetables	—	—	10,971	10,632	4,611	3,320	6,893	6,371	2,061	1,517	2,760	4,558	—	—	—	—	7	—
Hides	25,396	32,435	4,697	8,162	7,954	7,443	1,292	—	3,490	5,119	899	852	1,738	4,709	—	—	1	1
Iron	46,147	59,269	—	—	2,499	5,275	With metal.		—	—	—	—	44	75	—	—	—	—
Jagree and Sugar	76,754	66,174	21,630	20,494	12,147	12,119	21,803	24,705	29,685	20,326	—	—	7,797	6,733	—	—	1	32
Jute	966	897	—	—	—	—	—	—	343	136	—	—	124,049	103,691	—	—	—	—
Metal and Hardware	—	—	46,579	24,508	—	—	3,934	4,850	7,306	12,774	—	—	733	872	—	—	—	—
Military Stores	16,375	19,855	8,690	6,547	5,091	2,884	1,978	1,503	10,972	10,661	33	53	657	833	—	—	—	—
Oil	2,173	2,533	5,910	3,183	6,219	6,322	851	839	2,949	2,358	1,297	2,080	—	—	—	—	99	45
Opium	7,174	7,129	3,852	3,838	—	—	947	614	—	—	—	—	14	77	—	—	—	—
Piece Goods	46,241	46,520	13,115	11,819	—	—	6,762	6,179	11,236	12,236	—	—	9,913	10,221	—	—	—	—
Rice	123,314	97,770	—	—	82,672	84,450	With grain.		With grain.		With grain.		15,746	29,582	—	—	2,706	1,549
Salt	124,947	103,870	64,926	63,846	46,813	43,283	23,632	10,658	11,542	6,409	10,534	13,371	1,350	1,229	—	—	1,014	1,074
Seeds	115,246	83,851	36,565	18,011	12,285	15,545	7,790	4,568	22,570	7,873	3,826	4,326	2,425	1,423	—	—	474	236
Silk	639	653	256	238	—	—	With piece goods.		—	—	—	—	270	225	—	—	—	—
Timber	15,492	13,545	17,094	9,810	16,336	11,530	7,183	6,852	5,815	4,015	—	—	—	—	—	—	44	—
Tobacco	12,217	9,816	2,331	2,292	5,203	4,554	5,821	5,170	971	838	692	444	11,636	5,883	—	—	40	14
Twist	2,631	2,184	4,265	3,843	3,804	3,351	1,390	1,420	—	—	—	—	—	—	—	—	26	24
Wines, Spirits, &c.	17,290	19,858	4,611	5,479	1,583	1,319	602	2,232	2,327	2,773	—	—	201	229	—	—	1	1
Wool	—	—	270	158	—	—	2,238	1,441	6,767	5,789	—	—	—	—	—	—	—	—

STATEMENTS relating to the GROSS RECEIPTS and EXPENSES, the NET REVENUE, TRAIN MILEAGE, and GUARANTEED INTEREST for the Year ended 31st December 1873.

TABLE No. 1.—STATEMENT of TRAFFIC on the INDIAN

Railway.	Actual Number of Miles open on 31st December, and Average Number of Miles of Open Line during 1873.						Number of Miles of Sidings on 31st December 1873.	Passenger Traffic.						
	Double.		Single.		Total			Number of Passengers (*exclusive of* Holders of Season and Periodical Tickets).						Number of Holders of Season and Periodical Tickets.
	Actual.	Average.	Actual.	Average.	Actual.	Average.		By First Class.	By Second Class.	By Intermediate Class.	By Third Class.	By Fourth or Coolie Class.	Total by all the Classes.	
GUARANTEED.														
East Indian, Main Line	410½	410½	869½	869½	1,280	1,280	278½	38,187	91,169	301,998	5,235,588	—	5,806,942	8,002
East Indian, Jubbulpore Line	—	—	223¾	223¾	223¾	223¾	21½	3,745	7,227	3,525	227,217	—	241,714	—
Great Indian Peninsula	326½	326½	952	952	1,278½	1,278½	185	24,994	112,555	—	1,081,039	2,104,973	3,323,561	620
Madras	—	—	858	851	858	851	82	10,641	75,007	—	2,154,709	503,232	2,743,589	212
Bombay, Baroda, and Central India	23	23	388½	380½	411½	403½	67	17,881	157,993	—	2,972,916	—	3,148,790	3,199
Scinde, Punjab, and Delhi	4½	4½	659	657½	663½	662⅝	110	12,999	26,562	16,153	1,995,541	—	2,051,246	—
Great Southern of India	—	—	168	168	168	168	13½	1,992	9,343	—	1,389,981	—	1,401,316	8
Eastern Bengal	—	—	158½	157½	158½	157½	39½	29,337	50,943½	—	327,732	1,223,013	1,631,025½	2,543
Oude and Rohilkund					455								1,310,675	
Carnatic	—	—	18½	18½	18½	18½	1½	470	5,725	—	95,891	—	102,086	—
STATE.														
Calcutta and South-eastern	—	—	28	28	28	28	3½	—	4,033 Upper	—	—	348,788 Lower	352,823	—
Nulhuttee	—	—	27½	27½	27½	27½	1½	870	1,247	3,522	71,625	—	77,264	—
Rajpootana					90									
BERAR.														
Oomrawuttee	—	—	5½	5½	5½	5½	½	568	1,871	—	40,923	—	43,362	—
Kamgaun	—	—	7½	7½	7½	7½	½	157	426	—	7,358	886	8,827	—
Totals for Railways	764½	764½	4,364½	4,347½	5,129	5,111½	810	141,832	544,163½	415,198	15,650,520	4,180,892	22,243,220½	14,584
Indus Steam Flotilla			575 miles of river.					254	199	—	7,823	—	8,276	—
Totals for Railways and Flotilla								142,086	544,362½	415,198	15,658,343		22,251,496½	

RAILWAYS during the Year ended 31st December 1873.

Goods Traffic.											Number of Trains.					
Number of Live Stock.	Number of Tons of Minerals.			Number of Tons of General Merchandise.							Passenger (*including* Special and Troop) Trains.	Goods Trains.	Mineral Trains.	Mixed Passenger and Goods Trains.	Total Number of Trains.	Number per open Mile.
	Number of Tons of Coal and Coke.	Number of Tons of all other Minerals.	Total Number of Tons of Minerals.	Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special and Sundry.	Total of all Classes.						
2,977	423,398	5,023	429,321	715,531	133,387	44,097	33,651	2,487	122,646	1,051,999	5,875	16,045	With Goods	16,943	38,863	30
2	98	46	144	95,725	14,371	6,256	1,655	189	4,263	122,459	763	645	7	730	2,145	10
262,754	1,524	—	1,524	376,831	1,442,773	30,936	26,816	11,573	103,490	692,409	4,531	30,187	—	1,818	36,536	21
8,496	—	—	—	135,707	45,054	21,710	9,611	5,116	187,865	405,063	182	7,237	—	10,766	18,185	21
169,167	2,067	193,198	195,265	70,545	41,651	41,138	1,141	1,531	72,535	228,541	9,158	6,773	1,524	2,970	20,425	50
434	—	314	314	104,260	51,644	21,491	14,604	2,292	101,695	355,986	524	3,242	—	2,299	6,065	9
2,818	—	—	—	62,078	3,009	1,616	347	522	21,391	88,963	—	—	—	3,155	3,155	18
2,036	11,289	27,983	39,281	26,120	35,128	3,279	1,265	393	156,339	222,524	4,225	1,369	—	1,369	6,963	44
14	—	—	—	1,868	190	49	35	97	3,535	5,825	78	—	—	716	794	42
89	555	—	555	—	—	—	—	—	39,016	39,016	1,060	—	—	852	1,912	68
—	3,222	—	3,222	2,522	1,070	1,045	331	18	3,346	8,385	—	—	—	863	863	32
—	—	—	—	6,989	18,730	601	69	265	—	26,645	—	13	—	1,086	1,099	20
—	—	—	—	3,062	13,476	541	232	36	—	17,347	—	68	—	393	461	57
448,807	442,653	227,173	669,826							3,226,062	26,396	65,579	1,531	43,990	137,496	
—	—	—	—							39,041	—	—	—	—	—	—

TABLE No. 2.—STATEMENT of TRAFFIC on the INDIAN RAILWAYS

Railway.	Number of Engines and Vehicles used in conveying Traffic.									Average Number of Vehicles in each Train.				Number of Miles in shunting.		
	Engines.	Passenger Carriages. First Class.	Second Class.	Composite.	Intermediate Class.	Third Class.	Fourth Class.	Total Number.	Goods Trucks, &c.	Carriages in each Passenger Train.	Trucks in each Goods Train.	In each Mixed Passenger and Goods Train. Carriages.	Trucks.	By Passenger (including Special and Troop) Trains.	By Goods (including Construction Materials for other Railways) Trains.	By Mineral Trains.
GUARANTEED.																
East Indian, Main Line	460	80	86	19	47	340	—	572	5,487	16	29	14	9	1,203,364½	2,826,134	209,742
„ Jubbulpore Line	42	8	14	4	4	30	—	60	1,007	15	23	6	19	160,080½	116,712½	167½
Great Indian Peninsula	330	131	201	—	—	352	103	787	7,155	14	28	10	22	1,285,196	1,900,709	
Madras	106	20	54	35	—	204	38	351	3,110	16	21	7	14	15,152	551,426	
Bombay, Baroda, and Central India	59	13	20	11	—	114	—	158	2,378	8	41	10	17	321,815	315,235½	
Scinde, Punjaub, and Delhi	136	64	60		8	237	—	369	2,842	Not stated	Not stated	Not stated	Not stated	101,822	629,907	
Great Southern of India	21	—	2	7	—	34	—	43	345			7	10			
Eastern Bengal	43	20½	15½		—	34	65	178	763	16	33	7	26	215,285½	167,135	
Oude and Rohilkund																
Carnatic	4	3	6	4	—	20	—	33	40	12		5	4	1,482		
STATE.																
Calcutta and South-eastern	8	—	6 Upper	—	—	—	20 Lower	26	254	14		8	29	17,208		
Nulhuttee	4	2	—	*1	—	4	—	7	13			5	6			
BERAR.																
Oomrawuttee											15	6	6			
Kamgaun											18	6	7		568	
Totals														3,330,505	6,537,910½	209,917

during the Year ended 31st December 1873—*continued.*

travelled by Trains (except piloting, and assisting).					Number of Ton Miles (expressed in the Number of Tons moved One Mile).											
						Goods Traffic.										
By Mixed Passenger and Goods Trains.		By Trains conveying Materials for Revenue Purposes.	Total Number of Train Miles.	Number of Train Miles per open Mile.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Minerals.	General Merchandise.							Total Mineral and General Merchandise.	Per-centage of Up and Down Traffic.	
							First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Special and Sundry.	Total of all Classes.		Up.	Down.
(P.)	(G.)															
719,878½	719,878½	107,506	5,837,571	4,561	34,980,227	32,831,870	155,847,170	45,028,734	13,624,445	15,493,360	1,204,358	103,308,155	333,106,722	417,938,592	44	56
81,395	81,395	3,112½	451,862½	2,019	3,566,836	395,613	12,065,077	2,432,645	1,476,654	285,439	67,826	2,173,319	18,500,960	18,896,572	51	49
181,405	299,344		3,636,744	2,868	Notstated	Notstated	96,212,046	37,084,992	8,834,893	6,290,540	3,114,326	931,320	152,468,117		57	43
660,412	757,886		2,014,876	2,348	783,753	—	20,903,152	7,251,324	3,079,030	2,016,553	902,324	38,051,682	72,304,070	72,304,070	50	50
96,851	164,564½	60,391½	958,857½	2,375	116,068 luggage only	1,382,700	11,470,934	8,432,378	2,714,991	202,130	426,257	9,275 730	32,522,423	41,302,123	55	45
287,318	159,451	200,430	1,378,928	2,032	347,272	63,535	12,203,925	8,195,200	3,284,905	1,924,146	502,432	25,085,345	51,057,953	52,021,488	37	63
157,595½	157,595½	8,835	324,026	1,923	62,600		3,712,304	244,763	116,102	27,501	43,342	1,446,719	5,591,181	5,591,181	33	67
81,630½	81,630½		543,382	3,449	98,382	4,962,500	2,460,647	4,623,632	230,267	157,671	24,709	20,053,177	27,660,103	31,062,693	11	89
			381,455													
7,538	6,046		15,086	794	27		35,212	3,532	969	665	1,843	64,365	106,636	106,636	52	48
5,171	16,305		33,634	1,382		15,242						930,437	930,437	925,679	91	9
11,956	14,349		26,305	905		33,611	65,754	20,578	26,099	10,180	1,220	83,593	210,723	302,633	83	17
3,834	2,032		6,600	1,200			41,934	112,389	3,606	360	1,509		159,870	159,870	Not stated	Not stated
1,484	1,668		3,720	465			24,496	107,808	4,328	1,856	288		138,776	138,776	Not stated	Not stated
2,296,678½	2,462,795½	440,335½	15,650,507½													

This portion is far too incomplete for addition.

TABLE No. 3.—GROSS RECEIPTS of the INDIAN RAILWAYS

Railway.	Passenger Traffic.													Receipts from Live Stock.
	Receipts from Passengers.							Total Receipts from Excess Luggage, Dogs, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Receipts for Mail Service.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic—(T.)	Passenger Receipts per Train Mile.	
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.							
GUARANTEED	£	£	£	£	£	£	£	£	£	£	£	£	s.	£
East Indian, Main Line	35,936	30,452	29,923	565,298	—	3,279	664,895	59,401	3,373	4,793	16,574	749,043	6·9	779
„ Jubbulpore Line	5,254	4,033	1,465	41,236	—	—	52,046	6,870	1,684	852	5,490	66,945	5·9	6
Great Indian Peninsula	27,392	28,858	—	117,101	192,445	840	367,136	51,679	2,578	1,430	75,464	498,277	6·7	6,761
Madras	11,660	11,963	—	161,566	18,491	477	204,157	19,081	—	1,096	6,965	231,249	6·8	2,937
Bombay, Baroda, and Central India	5,109	10,720	—	170,960	—	2,566	189,355	13,247	165	1,995	4,037	208,899	9·9	9,344
Scinde, Punjab, and Delhi	9,004	9,631	2,772	155,357	—	—	176,764	17,362	184	—	4,480	198,790	10·2	61
Great Southern of India	617	1,000	—	45,372	—	42	47,031	1,964	6	—	762	49,763	3·9	33
Eastern Bengal	3,469	2,900	—	19,143	67,081	1,513	94,136	13,165	70	22	—	107,393	7·2	29
Oude and Rohilkund												63,249		
Carnatic	44	306	—	2,979	—	—	3,329	40	—	64	—	3,433	7·6	1
STATE.														
Calcutta and South-eastern	—	275 Upper	—	—	4,949 Lower	—	5,224	177	—	15	—	5,416	4·8	9
Nulhuttee	429	228	422	3,995	—	—	5,074	480	90	40	—	5,684	9·5	
BERAR.														
Oomrawuttee	26	39	—	434	—	—	499	61	—	—	40	600	3·	—
Kamgaun	10	14	—	115	9	—	148	33	—	—	—	181	2·4	—
Totals for Railways	89,480	100,424	34,587	1,288,606	282,975	8,717	1,809,794	183,610	8,155	10,307	113,802	2,138,922		19,965
Indus Steam Flotilla	1,518	251	—	3,429	—	—	5,198	487	—	—	—	5,685	—	26
Totals for Railways and Flotilla	90,998	100,675	34,587	1,287,035	282,975	8,717	1,814,992	184,097	8,155	10,307	113 802	2,194,607		19,973

during Year ended 31st December 1873.

Goods Traffic.												Total Receipts from Passenger and Goods Traffic—(P.)+(G.)	Passenger and Goods Receipts per Train Mile.	Total Miscellaneous Receipts—(M.)	Miscellaneous Receipts per Train Mile.	Total Receipts from Passengers, Goods, and Miscellaneous—(P.)+(G.)+(M.)	Total Receipts per Train Mile.
Receipts from Minerals.			Receipts from General Merchandise (*exclusive of* Live Stock and Minerals).							Total Receipts from Goods Traffic—(G.)	Goods Receipts per Train Mile.						
From Coal and Coke.	From Other Minerals.*	Total Receipts from Minerals.	From First or Lowest Class.	From Second Class.	From Third Class.	From Fourth Class.	From Fifth or Highest Class.	From Special and Sundry.	Total.								
£	£	£	£	£	£	£	£	£	£	£	s.	£	s.	£	s.	£	s.
187,419	1,803	189,222	712,411	340,678	122,953	127,071	12,083	221,874	1,544,075	1,735,555	9·9	2,484,598	8·7	94,516	·3	2,579,114	9·1
63	33	98	52,796	18,320	10,102	2,936	373	4,580	89,107	89,779	8·	156,724	6·9	21,312	·9	178,036	7·9
1,006	—	1,006	480,634	400,932	126,997	105,940	75,735	4,399	1,195,646	1,203,413	10·9	1,701,690	9·2	26,329	·1	1,728,019	9·4
—	—	—	105,818	47,374	29,908	21,739	14,910	157,507	377,256	379,298	5·6	619,542	6·	20,431	·2	639,973	6·2
910	6,733	7,643	66,175	60,253	92,588	3,090	8,628	40,492	271,226	288,213	12·	497,112	11·	15,286	·3	512,398	11·4
—	210	210	54,299	60,710	30,753	23,133	4,933	95,956	269,789	270,060	6·8	468,850	7·9	18,453	·3	487,303	8·2
—	—	—	21,197	1,623	993	285	815	24,122	49,035	49,073	2·3	98,836	6·2	3,178	·2	102,014	6·4
3,918	8,167	‡12,085	10,964	30,904	3,577	2,108	663	93,801	142,017	154,131	12·3	261,524	9·5	53,343	1·9	314,867	11·5
										47,192		110,441		1,949		112,390	
—	—	—	169	34	11	11	40	257	522	523	1·7	3,956	5·2	78	·1	4,034	5·3
64	—	64	—	—	—	—	—	3,599	3,599	3,672	4·5	9,088	4·7	1,119	·5	10,207	5·2
685	—	685	454	337	442	254	21	414	1,922	2,607	3·6	8,291	6·3	154	·1	8,445	6·4
—	—	—	245	1,012	48	5	39	244	1,593	1,593	11·7	2,193	6·6	18	·0	2,211	6·7
—	—	—	133	1,023	57	33	7	218	1,471	1,471	13·1	1,652	8·8	11	·0	1,663	8·9
194,067	16,946	211,013	1,505,295	963,200	425,434	287,619	118,247	647,463	3,947,258	4,226,575		6,415,498		256,178		6,671,676	
									65,222	65,430		71,115		—		71,115	
									4,012,480	4,292,005		6,486,613		256,178		6,742,791	

The totals do not tally, owing to some of the East Indian figures being supplied unaudited.

TABLE No. 4.—EXPENDITURE on REVENUE ACCOUN

Railway.	Maintenance and Renewal of Way and Works.				Cost of producing Locomotive Power by Wages and Materials.			Repairs and Renewals of Carriages and Waggons.			Coaching and Merchandise.			Collection and Delivery of Goods.		
	Gross.		Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.
	Ordinary.	Special.														
GUARANTEED.	£	£	d.		£	d.		£	d.		£	d.		£	d.	
East Indian, Main Line	200,020	—	8·4	6	287,259	12·1	11	91,380	3·8	4	231,828	9·8	9			
„ Jubbulpore Line	21,784	—	11·6	13	32,012	17·4	18	11,386	6·	6	21,980	11·7	12			
Great Indian Peninsula	215,962	27,530	15·9	14	374,142	21·4	22	93,570	6·1	5	160,550	10·5	9	35,895	2·3	2
Madras	101,762	29,324	15·6	21	112,162	13·3	18	19,854	2·3	3	51,730	6·1	8			
Bombay, Baroda, and Central India.	54,065	30,919	21·2	16	86,047	21·5	17	23,373	5·9	4	45,474	11·3	9	12,732	3·1	2
Scinde, Punjab, and Delhi	67,102	—	11·6	14	121,503	21·1	25	30,563	5·3	6	57,466	10·	12	2,171	·3	
Great Southern of India	19,358	—	7·6	10	22,408	16·6	22	4,173	3·7	4	7,140	5·3	7			
Eastern Bengal	23,711	—	12·6	10	31,165	13·7	11	12,141	5·3	4	34,696	15·2	12	293	·1	
Oude and Rohilkund	18,826															
Carnatic	394	352	11·8	18	713	11·3	18	115	1·8	3	279	4·4	7			
STATE.																
Calcutta and South-eastern	3,271	—	20·2	32	3,213	19·9	31	1,311	8·1	13	1,328	8·2	13			
Nulhuttee	1,009	—	16·	13	1,739	15·8	20	365	3·3	4	1,041	9·5	12	143	1·3	2
BERAR.																
Comrawuttee	467	—			1,026	37·3	46	124	4·5	5	310	29·4	37			
Kamgaun	244	—			729	47·	47	65	4·1	4	374	24·1	23			
Totals for Railways	724,133	88,325			1,074,723			288,420			614,696			51,234		
Indus Steam Flotilla	21,484															
Totals for Railways and Flotilla	745,619															

during Year ended 31st December 1873.

Rates and Taxes.			Compensation for Personal Injury, &c., Damage and Loss of Goods.				Legal and Parliamentary Expenses.			Miscellaneous Working Expenditure, not included in the foregoing.			Total Working Expenditure.		
Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.		Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.
			Personal.	Goods.											
£	d.		£	£	d.		£	d.		£	d.		£	s.	
7,710	·3		733	1,690	·1		1,080	·0		147,643	6·2	6	969,425	3·4	38
100	·0		—	57	·0		2			13,464	7·2	8	101,386	4·5	57
1,634	·1		539	1,241	·1		556	·0		91,932	6·2	5	1,006,661	5·4	58
761	·0		491	271	·0		148	·0		42,099	5·	7	359,277	3·5	57
705	·1		261	330	·1		873	·2		48,324	12·1	9	303,503	6·3	59
79	·0		—	2,533	·4		443	·0		52,765	9·1	11	534,630	4·8	69
219	·1		—	9			—	—	—	6,402	4·7	6	50,709	3·1	50
657	·2		5	2,101	·9	1	687	·3		50,502			160,959		51
													81,946		73
3	·0		—	—	—	—	2	·0		400	7·4	11	2,327	3·	58
151	·9	1	—	16	·1		—	—		1,178	7·3	12	10,438	5·2	103
5	·0		—	—	—	—	—	—	—	680	6·2	8	5,072	3·8	60
										116	4·2	5	2,543		115
										63	4·	4	1,475		89
													3,491,158		
										45,079			66,563		94
													3,557,721		

Number of LOCOMOTIVES and VEHICLES owned by the Guaranteed Railway Companies.

Railway Company.	Locomotives.			Passenger Carriages.		Goods Trucks and Waggons.		Total Number of Vehicles on 31st December 1873.
	Former Number.	Added in 1873.	Total Number, 31st Dec. 1873.	Former Number.	Added in 1873.	Former Number.	Added in 1873.	
East Indian	535	[less 10]	525	923	1	6,844	[less 50]	7,718
Great Indian Peninsula	329	1	330	1,282	14	6,569	77	7,942
Madras	126	—	126	345	23	3,272	[less 5]	3,635
Bombay, Baroda and Central India	72	13	85	217	18	2,851	[less 7]	3,079
Scinde, Punjab and Delhi	132	3	135	444	—	1,841	100	2,385
Great Southern of India	21	—	21	43	—	347	—	390
Eastern Bengal	43	—	43	157	1	725	—	883
Oude and Rohilkund	60	—	60	194	1	421	135	756
Carnatic	4	2	6	33	—	43	—	76
Totals	1,322	9	1,331	3,638	58	22,913	250	26,859

SUMMARY.

49. There are now open in India 5,872 miles of railway, which have cost about 97,000,000*l.*, giving an average expenditure of 16,536*l.* a mile. Of this length, 727 miles are laid with a double line, and 5,725 miles on the 5 ft. 6 in. gauge. A further extent of 1,850 miles is now in course of execution, of which 817 miles will be on the 5 ft. 6 in. and 1,033 on the metre gauge. It has lately been decided that the Indus Valley line shall be constructed on the 5 ft. 6 in. instead of on the narrow gauge. During last year 312 miles of additional line were opened.

50. The quantity of materials sent out from this country last year amounted to 118,670 tons, exclusive of 10 locomotives and 85,499 tons of fuel. The Government were the chief consignors, having shipped nearly 60,000 tons for the State railways. Since the commencement of railway operations in India about 4,700,000 tons of materials have been despatched to that country, of the value of 31,150,000*l.*

51. The proprietors of Indian railway securities numbered 62,318 on the 1st January, being only 378 in addition to the previous year. Of these, 56,597 were shareholders registered in England, and 4,821 were holders of debenture bonds or stock. Only 900 shareholders reside in India, of whom 421, or ·67 per cent. of the whole, are natives.

52. Upwards of 4,000,000*l.* was expended in the construction of railways during the year 1873, the expenditure being nearly equally divided between the Government and the companies. The whole amount of guaranteed capital which had been raised to the 31st March last was 94,725,000*l.*, of which 92,417,000*l.* had been expended. The sum expended direct by the Government amounted to 5,398,000*l.*, making a total expenditure of upwards of 100,000,000*l.*

53. The net revenue derived from the railways amounted to 3,185,000*l.*, being upwards of 315,000*l.* in excess of the previous year. The gross receipts were 6,742,000*l.* compared with 6,351,000*l.*, and the expenses 3,557,000*l.* compared with 3,482,394*l.* The guaranteed interest advanced by the Government was 1,428,442*l.* in excess of the revenue.

54. The passenger traffic increased from 20,332,823 in 1872 to 22,243,220, and produced 2,194,515*l.* instead of 2,085,942*l.* The goods amounted to 3,266,062 and the minerals to 669,826 tons, and the receipts were 4,294,160*l.* compared with 3,964,614*l.* The miscellaneous traffic was 254,114*l.* as against 301,061*l.*

55. The expenses of maintenance amounted to 786,453*l.* and of working to 2,771,268*l.*, being at the rate of 53 per cent. of the gross receipts as compared with 55 per cent. in the previous year. On the East Indian the rate was 38. On the Scinde, Punjab, and Delhi it was 69. The number of trains run was 137,406 compared with 155,594 of the previous year. The train mileage was 15,650,597 compared with 14,543,862. The train mileage receipts averaged 8·52*s.*; the expenses 4·46*s.*

56. The conclusions to be drawn from the results of last year's operations are, that the normal condition of the railways is, under existing circumstances, one of slow progress; that the railways are capable of doing more work; that with branches and good roads judiciously laid out traffic will increase; that in most cases a reduction in expenditure is feasible; that with proper care and economy and an enlightened management the majority of the lines would become more profitable and probably remunerative.

I have the honour to be,
My Lord Marquis,
Your Lordship's very obedient humble servant,
JULAND DANVERS.

THE INDIAN RAILWAYS, 1872.

East Indian.
Calcutta to Allahabad; thence North-west to Delhi, and South-west to Jubulpore; also the short line between Burdwan and Lucknow, with a mineral branch to Kutterbullee.

Kathiawar and Moorchedabad. (*State Line.*)
A branch from the East Indian main line, recently purchased from the Oude Railway Company.

Calcutta and Canning. (*State Line.*)
To the harbour in Mutlah river.

Eastern Bengal.
Calcutta to Goalunda. Extension from Kooshtea towards Darjeeling and Assam, surveying.

Oude and Rohilcund.
Cawnpore to Lucknow, Bareilly, Pursbunkee (Moradabad), and Dyrass Ghat. In progress.—Westward from Lucknow to Moradabad and Delhi Railway, with a branch from Chundowsee to Allygurh; also Eastward from Barabunkee by Sitapoor to Bonaree and to Benar.

Sinde, Punjab, and Delhi.
Delhi to Lahore and Mooltan in the Punjab, and Kotree to Kurrachee in Sinde.

Indus Valley. (*State Line.*)
Mooltan to Kotree, 360 miles. In progress as far as Sukrur (270 miles), surveying from Sukrur to Kotree.

Northern Punjab. (*State Line.*)
Lahore to Peshawur, 276 miles; in progress as far as Gujrat (173 miles.

Rajpootana. (*State Lines.*)
Ajmere to Nusseerabad, 82 miles, with a branch to Beawhur Lake, 236 miles, in progress; Ajmere to Beawhur, and branch to Ferozepore, also in progress.

Bombay, Baroda, and Central India.
Bombay to Ahmedabad, and thence to Wadwan, 201 miles.

Great Indian Peninsula.
1. The North-eastern line from Bombay to Bhoosawul and Jubulpore, and from Bhoosawul to Nagpore, with branches to Khandgaon and Chanderfore. 2. The South-eastern line from Bombay to Raichoor, which is the junction with the Madras line. (*The Kimgaon and Chanderfore branches are State Lines worked by the G.I. P. Company.*)

Nagpore and Saigaon. (*State Line.*)
Surveyed.

Wurda, Hinganghat, and Warora or Pingaon. (*State Line.*)
Sanctioned from Wurda to a point 8 miles short of Hinganghat.

Indore and Khandwah. (*State Line.*)
In progress.

Hyderabad. (*Nizam's State Line.*)
Wadi, on the Great Indian Peninsula Railway to Hyderabad, 110 miles, in progress.

Madras.
1. South-western line to Beypore, with a branch to Bangalore, and another continued to the foot of the Neilgherry mountains, 98 miles; also an extension from Bangalore to Nyanee, 100 miles, surveying. 2. North-eastern line to Raichoor, the junction with the Great Indian Peninsula, with a branch to Pollerty.

Carnatic to Guddauk. (*State Line.*)
Surveyed and sanctioned.

Great Southern.
Negapatam to Trichinopoly junction. Extension in progress from Cumbaconum to Tuticorin, 210 miles.

Carnatic.
Jolarpet Junction to Conjeeveram. Extension to Cuddalore, in progress, 100 miles.

British Burmah. (*State Line.*)
Rangoon to Prome, 100 miles, surveyed.

THE RAILWAYS OF INDIA

THE INDIAN RAILWAY STATIONS.

Although the Scale of the Map is too small to insert so many names, the positions of all the Stations are indicated.

THE INDIAN RAILWAYS, 1873.

GUARANTEED LINES.

1. East Indian. 1,503½ Miles.
   Calcutta to Allahabad 420 miles; thence North-west to Delhi, 329 miles; and South-west to Jubbulpore, 228 miles; also the direct line between Burdwan and Lucknowsi, with several branch to Kurharbalee.
2. Great Indian Peninsula. 1,236½ Miles.
   1. The North-eastern line from Bombay to Bhoosawul and Jubbulpore, and from Bhoosawul to Nagpore. 2. The South-eastern line from Bombay to Raichoor, which is in junction with the Madras line.
3. Madras. 907½ Miles.
   1. South-eastern line to Beypore, with a branch to Bangalore, 412 miles; and another mentioned to the foot of the Neilgherry mountains, 93 miles; also an extension from Bangalore to Mysore, 100 miles, surveying. 2. North-western line, Raichoor, the junction with the Great Indian Peninsula, with a branch to Bellary, 240 miles.
4. Bombay, Baroda, and Central India.
   Bombay to Ahmedabad, and thence to Wutwee, 309½ miles.
5. Scinde, Punjaub, and Delhi. 674 Miles.
   Delhi to Lahore and Kotlaa in the Punjab, and Kotree in Scinde in blank.
6. Great Southern of India. 378 Miles.
   Seppanee to Kurla junction. Extension in progress from Kurla to Pullaree, 310 miles.
7. Oriental. 314½ Miles.
   Ground from Aroomair Junction to Conjeveram, 18½ miles. Madras to Tanjore, surveyed.
8. Eastern Bengal. 166½ Miles.
   Dalhtie to Goalundo. Extension from Kooshtea towards Darjeeling and Assam, surveying.
9. Oude and Rohilkund. 706 Miles.
   1. Cawnpore to Futtehpur Bunderwa (Newabgunj) and Sreen Gunj; Westward from Lucknow to Moradabad and Delhi Railway, with a branch from Cheenee to Allygurh. In progress: Eastward from Bunderwa by Allahabad to Benares and to Bombay.

STATE LINES.

10. Calcutta and South Eastern. 29 Miles.
    To the landing to Mutlah river.
11. Rajhahee. 37½ Miles.
    A branch to Moradabad from the East Indian main line.
12. Kangsoon. 74 Miles.
    A branch from the Great Indian Peninsula Railway to Beear.
13. Gonurwattpa. 64 Miles.
    A branch Soligdhurgah Indian Peninsula Railway to the coal centre east of Beear.
14. Patrea. (Cabul)
    A branch from the Bombay Baroda and Central India Railway to the salt works on the Runn of Cutch.

State Lines not Completed.

Punjab Northern.
Lahore to Peshawur, 320 miles; in progress as far as Jhelum, 173 miles.

Rajpootana.
1. Agra to Jeypore and Ajmere, with a branch to Sambhur lake, 204 miles, in progress; 2. Delhi to Rewaree, and branch to Furrucknugger, also in progress, 142 miles.

Indus Valley.
Kotree to Kurree, 495 miles. In progress.

Hyderabad. (Nizam's Line.)
Wadie on the Great Indian Peninsula Railway to Hyderabad, 123 miles, in progress.

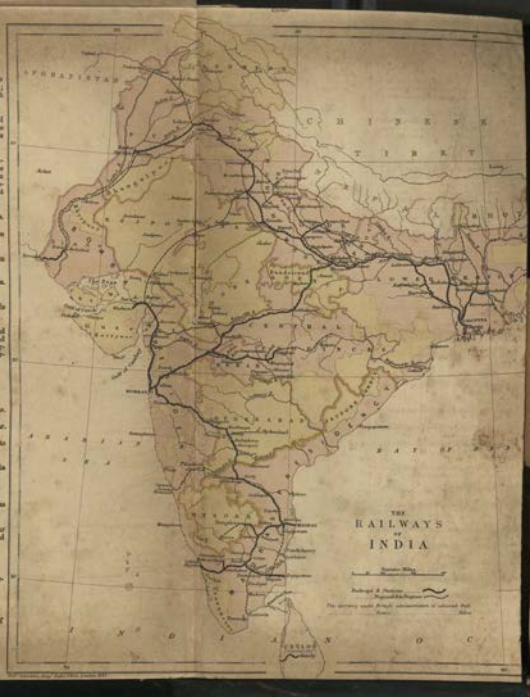
Indore and Khandwah. *(Holkar's Line.)* 66 Miles in progress.

Wurda Valley. 15 Miles.
Sanctioned from Wurda to a point 5 miles short of Nagpoolah.

Nagpore and Raipore. 121 miles. In progress.

Sirwar to Gundwah. 252 miles. Surveyed.

British Burmah.
Rangoon to Prome, 160 miles, surveyed.



THE INDIAN RAILWAY STATI

Although the Scale of the Map is too small to insert a position of all the Stations and Junctions

APPENDIX BY MR. A. M. RENDEL.

The following tables are prepared on the basis of those published as an appendix to the Annual Reports for 1871 and 1872.

Actual expenditure only during the half year is included in working expenses, no notice being taken of sums put apart out of the revenue of the half for renewals or repairs to be done in future half. In the case of the Madras the sum charged to the half year for the renewal of the Cheyair Bridge is excluded.

The Government returns do not yet give passenger and goods mileage separately. They have been obtained separately from the Companies' Reports, or on application.

Sundry receipts, demurrage, electric telegraph and ferry profits are treated as a credit to working expenses; that is, they are deducted from them, leaving on the receipt side only receipts for the actual transport of passengers and goods by railway.

Passenger Traffic.

	East Indian.				Great Indian Peninsula.		Madras.		Bombay, Baroda and Central India.	
	Main Line.		Jubbulpore Line.							
	Second half of 1872.	Second half of 1873.	Second half of 1872.	Second half of 1873.	Second half of 1872.	Second half of 1873.	Second half of 1872.	Second half of 1873.	Second half of 1872.	Second half of 1873.
Miles open	No. 1,281	No. 1,281	No. 223¾	No. 223¾	No. 1,266	No. 1,278½	No. 832	No. 851	No. 389	No. 411¼
(1.) Average receipts from each passenger train per mile.	s. d. 6 9½	s. d. 6 9¼	s. d. 5 8¼	s. d. 5 8¼	s. d. 6 4	s. d. 5 11	s. d. 5 2	s. d. 5 1¾	s. 9	s. d. 9 11½
(2.) Average sum received for carrying a passenger (taking all classes together) one mile.	d. ·371	d. ·373	d. ·4	d. ·396	d. ·43	d. ·4067	d. ·348	d. ·345	d. ·38	d. ·38
(3.) Average number in any passenger train at any one time.	No. 203	No. 218	No. 171	No. 174	No. 177	No. 197	No. 189	No. 170	No. 283	No. 314
(4.) Average cost of running a train one mile.	s. d. 3 4	s. d. 3 6¼	s. d. 3 10¾	s. d. 4 3¼	s. d. 5 3¼	s. d. 5 11	s. d. 2 10½	s. d. 3 4	s. d. 7 7½	s. d. 6 11
(5.) Average cost of carrying a passenger one mile.	d. ·197	d. ·1687	d. ·272	d. ·296	d. ·36	d. ·36	d. ·19	d. ·224	d. ·323	d. ·264
(6.) Average profit on each passenger per mile.	d. ·174	d. ·2043	d. ·123	d. ·1	d. ·07	d. ·0467	d. ·158	d. ·121	d. ·057	d. ·116
(7.) Average number of passenger trains running over each mile of line in *each* direction per diem (supposing all trains to run over the whole line in operation).	No. 2·32	No. 2·38	No. 1·61	No. 1·87	No. 1·73	No. 1·57	No. 1·38	No. 1·4	No. 1·39	No. 1·4
(8.) Average number of passengers passing over each mile of line, *both* directions taken together, per diem.	No. 942	No. 1,015	No. 518	No. 478	No. 612	No. 621	No. 497	No. 501	No. 785	No. 98

Goods Traffic.

	East Indian.				Great Indian Peninsula.		Madras.		Bombay, Baroda and Central India.	
	Main Line.		Jubbulpore Line.							
	Second half of 1872.	Second half of 1873.	Second half of 1872.	Second half of 1873.	Second half of 1872.	Second half of 1873.	Second half of 1872.	Second half of 1873.	Second half of 1872.	Second half of 1873.
Miles open	No. 1,281	No. 1,281	No. 223¾	No. 223¾	No. 1,266	No. 1,278½	No. 832	No. 851	No. 389	No. 411¼
(1.) Average receipts from each goods train per mile.	s. d. 10 1½	s. d. 9 8½	s. d. 6 10	s. d. 8 11	s. d. 9 0¼	s. d. 9 9	s. d. 6 3	s. d. 6 0½	s. d. 9 6	s. d. 11 1½
(2.) Average sum received for carrying one ton of goods (taking all classes together) one mile.	d. 1·15	d. ·96	d. 1·19	d. 1·144	d. 1·75	d. 1·612	d. 1·28	d. 1·233	d. 1·62	d. 1·583
(3.) Average load in tons in any goods train at any one time.	Tons. 105½	Tons. 121·8	Tons. 69	Tons. 93·5	Tons. 62	Tons. 72·6	Tons. 59	Tons. 59	Tons. 70	Tons. 87
(4.) Average cost of running a train one mile.	s. d. 3 4	s. d. 3 0"	s. d. 3 10½	s. d. 4 3½	s. d. 5 3¼	s. d. 5 11	s. d. 2 10¼	s. d. 3 4	s. d. 7 7½	s. d. 6 11
(5.) Average cost of carrying a ton of goods one mile.	d. ·38	d. ·302	d. ·674	d. ·551	d. 1·02	d. ·978	d. ·58	d. ·678	d. 1·31	d. ·954
(6.) Average profit on each ton per mile.	d. ·77	d. ·658	d. ·516	d. ·593	d. ·73	d. ·634	d. ·7	d. ·555	d. ·31	d. ·579
(7.) Average number of goods trains running over each mile of line in *each* direction per diem (supposing all trains to run over the whole line in operation).	No. 2·92	No. 3·72	No. 1·09	No. 1·014	No. 1·84	No. 1·77	No. 1·67	No. 1·74	No. 1 03	No. 1·03
(8.) Average number of tons passing over each mile of line *both* directions taken together, per diem.	Tons. 616	Tons. 900	Tons. 150	Tons. 129	Tons. 228	Tons. 258	Tons. 199	Tons. 204	Tons 144¼	Tons. 180

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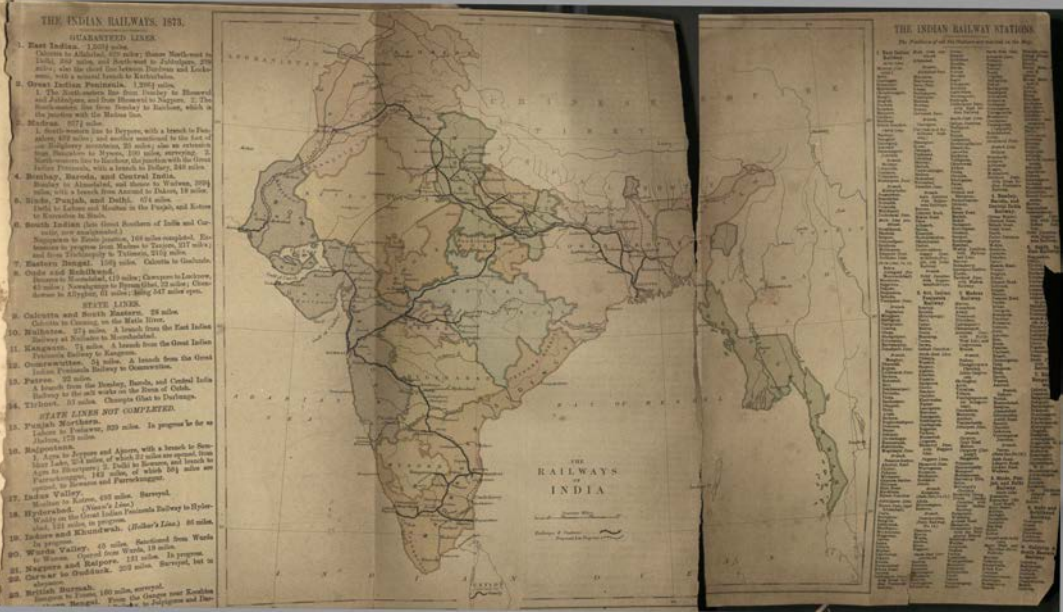
THE INDIAN RAILWAYS, 1873.
GUARANTEED LINES.
1. East Indian. 1,203½ miles.
Calcutta to Allahbad, 427 miles; thence North-west to Delhi, 382 miles, and South-west to Jubbulpore, 276 miles; also the direct line between Burdwan and Lookeeserai, with a second branch to Katrasbahr.
2. Great Indian Peninsula. 1,296½ miles.
1. The South-eastern line from Bombay to Bhosawal and Jubbulpore, and from Bhosawal to Nagpore. 2. The South-eastern line from Bombay to Raichore, which is the junction with the Madras line.
3. Madras. 977½ miles.
1. South-western line to Beypore, with a branch to Pandalum, 637 miles; and another southward to the foot of the Nulgherry mountains, 23 miles; also an extension from Beypore to Nyanad, 100 miles, surveying. 2. North-western line to Raichore, the junction with the Great Indian Peninsula, with a branch to Pollary, 340 miles.
4. Bombay, Baroda, and Central India. 204½ miles.
Bombay to Ahmedabad, and thence to Wadwan, 204½ miles, with a branch from Amreud to Dakore, 19 miles.
5. Sinde, Punjab, and Delhi. 674 miles.
Delhi to Lahore and Moultan in the Punjab, and Kotree to Kurrachee in Sinde.
6. South Indian (late Great Southern of India and Carnatic, now consolidated). 3
Negapatam to Erode junction, 168 miles completed, Erode to Coimbatore, 50 miles completed, Coimbatore to Pollachy, 37 miles; and from Pitchanpaty to Tuticorin, 2164 miles.
7. Eastern Bengal. 109½ miles. Calcutta to Goalunda.
8. Oude and Rohilkund.
Bareilly to Moradabad, 119 miles; Cawnpore to Lucknow, 46 miles; Nawabgunge to Byram Ghat, 22 miles; Charbagh to Allygunj, 61 miles; being 247 miles open.
STATE LINES.
9. Calcutta and South Eastern. 28 miles.
Calcutta to Canning, on the Mutla River.
10. Mooltanee. 271 miles. A branch from the East Indian Railway at Soolanke to Moorshedabad.
11. Kingsworth. 74 miles. A branch from the Great Indian Peninsula Railway to Kangaon.
12. Oomrawuttee. 24 miles. A branch from the Great Indian Peninsula Railway to Oomrawutee.
13. Purree. 32 miles.
A branch from the Bombay, Baroda, and Central India Railway to the salt works on the Sirsa of Odeh.
14. Tirhoot. 57 miles. Durbunga Ghat to Durbunga.
STATE LINES NOT COMPLETED.
15. Punjab Northern.
Lahore to Peshawur, 329 miles. In progress as far as Jhelum, 173 miles.
16. Rajpootana.
1. Agra to Jeypore and Ajmere, with a branch to Sambhur Lake, 214 miles, of which 32 miles are opened, from Sambhur to Jeypore; 2. Delhi to Rewaree, and branch to Furruckungge, 142 miles, of which 104 miles are opened, to Rewaree and Furruckungge.
17. Indus Valley.
Kotree to Kotree, 495 miles. Surveyed.
18. Hyderabad. (Nizam's Line.)
Wadi on the Great Indian Peninsula Railway to Hyderabad, 131 miles, in progress.
19. Indore and Khandwah. (Holker's Line.) 86 miles.
In progress.
20. Wurda Valley. 45 miles. Sanctioned from Wurda to Warora. Opened from Wurda, 18 miles.
21. Nagpore and Raipore. 121 miles. Surveyed, but not commenced.
22. Carwar to Guddack. 203 miles. Surveyed, but not commenced.
23. British Burmah.
Rangoon to Prome, 160 miles, surveyed.
24. Bengal. From the Ganges near Kooshee to Jelpigoree and Darjeeling.
THE RAILWAYS OF INDIA
THE INDIAN RAILWAY STATIONS.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1874-75.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

LONDON:
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1875.

[C.—1369.] *Price* 1*s.*

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REPORT.

To the Most Honourable the MARQUIS of SALISBURY, Secretary of State for India

MY LORD MARQUIS, India Office, 15th June 1875.

I HAVE the honour to lay before your Lordship my usual Annual Report, describing the progress which has been going on during the year 1874 in the development of the railway system of India, both as regards its expansion and working.

General progress.

2. An addition of 558 miles was made to the 5,715 which were open at the beginning of the year, extending the length of railway now open in India to 6,273 miles. Of these 727 are double and 5,546 single; 5,686 are constructed on the 5′ 6″ gauge and 587 on the metre gauge.

3. The works completed during the year consist principally of 200 miles of the Rajpootana State Railway, which is being constructed on the metre gauge; the Nizam's line, 128 miles in length, from Goolburga, on the Great Indian Peninsula Railway, to Hyderabad and Secunderabad; 57 miles of Holkar's Railway from Indore to Khundwa, and 84 miles of the Oude and Rohilkund system, which is now open for 540 miles.

4. The works on this last-mentioned line comprise two important bridges, one over the Ganges at Rajghat, on the Allyghur branch, and the other over the Ramgung River, four miles west of Bareilly. The bridge over the Ganges at Cawnpore is expected* to be shortly opened. It has been an undertaking of great difficulty, but the various obstacles which occurred have been overcome under the skilful superintendence of the Engineer in charge, Mr. Newton. Good progress is also being made with the South Indian Railway, a considerable length of which will be completed in the course of the present year. The works on the Neemuch State Railway are also going on slowly but satisfactorily.

Indus Valley Railway.

5. As soon as the decision to alter the gauge for the Indus Valley Railway was known in India steps were taken for giving effect to it. Lieut.-Colonel E. C. S. Williams, R.E., Director of State Railways, immediately visited the line and arranged with the Engineer-in-chief how the change should be carried out. It is expected that, if sufficient funds are available, the line may be opened as follows; viz., from Kotree to Sunn River, 60 miles, in 1875, from thence to Sukkur, 162 miles further, in 1877, and for the rest of the way to Moultan, 216 miles more, by June 1878. Two large bridges have to be executed, one spanning the Indus at Sukkur, the other crossing the Sutlej near Bhawulpore.

* Since this was written the last girder has been rolled on, and the bridge has been tested and pronounced ready for traffic.

6. The following table gives the length of each separate undertaking and the extent opened :—

	Railway.	Gauge.	Length of Line.	Length opened during 1874.	Total Length opened.	Portion laid with Double Line.	Length remaining to be finished.
Guaranteed.	East Indian — Main line	5′ 6″	1,280	—	1,280	414¾	—
	East Indian — Jubbulpore line	5′ 6″	223¾	—	223¾	—	—
	Great Indian Peninsula	5′ 6″	1,278¼	—	1,278¼	287	—
	Madras	5′ 6″	857¾	—	857¾	—	—
	Bombay, Baroda, and Central India	5′ 6″	428½	17	428½	23	—
	Scinde, Punjab, and Delhi	5′ 6″	667	—	667	—	—
	South Indian	3′ 3⅜″	610½	—	186	—	424½
	Eastern Bengal	5′ 6″	158½	—	158½	2¼	—
	Oude and Rohilkund	5′ 6″	695	84	539	—	156
State.	Nulhattee	4′ 0″	27½	—	27½	—	—
	Calcutta and South-eastern	5′ 6″	28	—	28	—	—
	Northern Bengal (to Darjeeling)	3′ 3⅜″	210	—	—	—	—
	Punjab Northern	—	329	—	—	—	329
	Indus Valley	5′ 6″	493	—	—	—	493
	Rajpootana — Agra and Delhi to Ajmere	3′ 3⅜″	396	201	291	—	105
	Rajpootana — Ajmere to Nussurabad and Indore	3′ 3⅜″	450	—	—	—	—
	Indore to Khundwa (Holkar's)	3′ 3⅜″	86½	57	57	—	28½
	Patree branch of Bombay, Baroda, and Central India Railway	5′ 6″	22	—	22	—	—
	Wurda Valley	5′ 6″	45	18	33	—	12
	Tirhoot	3′ 3⅜″	53	53	53	—	—
	British Burmah	3′ 3⅜″	160	—	—	—	160
	BERAR.						
	Khamgaon	5′ 6″	7½	—	7½	—	—
	Oomrawuttee	5′ 6″	5½	—	5½	—	—
	NIZAM'S GOVERNMENT.						
	Goolburga to Hyderabad and Secunderabad	5′ 6″	128	128	128	—	—
	Total		8,640¾	558	6,272¾	727	2,158

7. The additions which have been made to this list since the last report was issued are—(1) the line from Rangoon to Prome, in British Burmah, which your Lordship sanctioned in October last, after being satisfied that the expectations of its "direct remunerativeness" were "completely borne out" by the statistics of trade and traffic which were forthcoming; and (2) the line extending north from Indore to Neemuch and Ajmere to join the railway there from Agra and Delhi.

Annual progress.

8. The following statement exhibits the annual progress gradually made in the construction of railways since their commencement :—

Railways.	Length of Line open at the end of each Year.																				
	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.			
East Indian Railway (including Jubbulpore).	—	37½	120½	120½	120½	141	284½	¾	550½	883¾	937	1,105½	1,129½	1,129½	1,353½	1,353½	1,353½	1,353½	1,503½	1,503½	1,503½	1,503½
Great Indian Peninsula.	21½	34½	50½	88½	88½	194½	245½	297½	437½	494½	553	585½	701½	815½	853	875½	875½	1,258½	1,265½	1,278½	1,278½	1,278½
Madras - -	—	—	—	65½	80½	95	95	136	297½	447	447	571	611	645	645	677½	707½	783	832	832	857½	857½
Bombay, Baroda, & Central India.	—	—	—	—	—	—	—	35	132	185	185	305½	305½	305½	305½	305½	305½	310½	340½	389½	389½	406½
Scinde - -	—	—	—	—	—	—	—	—	105½	105½	105½	105½	105½	108½	108½	108½	108½	108½	108½	108½	108½	108½
Punjab - -	—	—	—	—	—	—	—	—	—	32	45	45	253	253	246	246	246	565½	565½	565½	565½	558½
Delhi - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	53	203½					
Great Southern of India, now South Indian.	—	—	—	—	—	—	—	—	49	79	79	79	79	127	144	168	168	168	168	168	168	168
Carnatic, now South Indian.	—	—	—	—	—	—	—	—	—	—	—	—	18½	18½	18½	18½	18½	18½	18½	18½	18½	18
Eastern Bengal -	—	—	—	—	—	—	—	—	110	110	110	110	110	110	113½	113½	113½	156½	156½	156½	155½	153½
Oude and Rohilkund.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	42	42	42	42	294	523	539
Calcutta & South-eastern.	—	—	—	—	—	—	—	—	15	28	28	28	28	28	28	28	28	28	28	28	28	28
Nulhattee -	—	—	—	—	—	—	—	—	—	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½
Khamgaon - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7½	7½	7½	7½	7½
Comrawuttee -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5½	5½	5½	5½	5½
Rajpootana -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	291
Indore - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33	57
Patree branch to Bombay, Baroda, & Central India.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22	22
Wurda Valley -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15	33
Tirhoot - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
Hyderabad -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	128
Total- -	21½	72	171	274½	289½	430½	624½	836½	1,581½	2,351½	2,516½	2,962½	3,368½	3,568	3,937½	4,017½	4,287½	4,833½	5,078½	5,383½	5,799	6,256½

9. In the last report the decision of your Lordship that the Indus Valley Railway should be constructed on the standard gauge of 5 ft. 6 in. was recorded, and it was also mentioned that the line between Lahore and Peshawur would be constructed on the same gauge "if considerations derived from the advanced state of the works" should not, in the opinion of the Viceroy, make this course inexpedient. By a resolution passed by the Governor-General in Council on the 3d August last, it was decided that the Punjab Northern Railway should be constructed on the 5′ 6″ gauge, light rails being used, and certain works being so executed in the first instance as to be capable of being subsequently strengthened and made uniform in all respects with the Indus Valley line. The large bridges over the Ravee, the Chenaub and Jhelum have chiefly occupied the attention of the Engineers during the past year, these being the most important links in the whole line: but preparations for opening the narrow gauge line on the grand trunk road, pending the formation of a separate bank for the broad gauge, and the arrangements for the formation of this new bank, were also rapidly pushed forward. So was the work of examining the country north of the Jhelum for a line apart from the trunk road. The narrow gauge temporary line was opened for traffic from Lahore to Wuzeerabad towards the end of last year. Gauge of Northern Punjab Railway.

10. It has unfortunately become almost a regular task each year to describe the disastrous effects of the rains upon the railway works. The floods of last season were unusually severe, but the only line which suffered serious damage was the Madras. On a section of the North-west line, extending 110 miles, between Gooty and Rajampett, the inundations and torrents swept everything before them. The four large bridges which spanned the Paupugnee, the Cheyair, the Chittravutty, and the Pennair rivers, most of them constructed of girders supported on iron screw piles, were either wholly or partially destroyed. These rivers and their feeders are dry for many months in the year, but in the monsoon they swell to the width of from a quarter to three quarters of a mile, and when the rainfall is like that of October last, they rush with irresistible force and scour the beds to a great depth when any obstruction occurs in their course. The Paupugnee bridge consisted of ten 140 feet iron girders placed on 19 piers at distances of 70 feet apart. The whole length was thus 1,400 feet. It was broken in several places. The current was estimated by persons on the spot who witnessed it to be running at a rate of 40 miles an hour. On the South-west line also considerable damage Flood damages.

was done. Five arches of the Goriattum bridge were broken, and a road bridge over the Palaar river near Vellore was destroyed. In consequence of these disasters the traffic was altogether stopped for 10 days on the South-west and 23 days on the North-west line; and on the latter, although it was afterwards carried on by temporary arrangements, direct railway communication was not restored for 12 weeks. The measures to be taken for rebuilding the bridges and placing them beyond the influence of future floods have been fully considered by the Government and Railway Company's Engineers in India, as well as by Sir John Hawkshaw, the Company's Consulting Engineer in England, and are now being carried out.

11. The chief causes of failure were insufficiently deep foundations in the bed of the rivers and inadequate waterway. The remedial measures will consist of protective works formed with walls, curtain walls, stone pitching and rubble stone, and in some cases of large additions to the waterway. The cost of these restorations may be roughly estimated at 200,000*l*.

12. The new works on the Oude and Rohilkund Railway were severely tried but not much damaged by the rains of September, which are described as "unprecedented" in those provinces. This expression must, I think, be used, however, without sufficient ground, and strictly speaking is more properly applicable to the serious and novel effects produced than to the actual rainfall. Although, as is stated, the enormous fall of 9½ inches took place in one district between 9 p.m. and 7 a.m., and the Ganges at Cawnpore rose 9 inches higher than has been recorded, there is nothing to lead to the supposition that such a downfall never occurred before. It is only matter for regret that here, as in other places, the information was so imperfect that the Engineers were not forewarned. It was fortunate that the floods of the Indus last year were greater than had ever been remembered or recorded, as those entrusted with the construction of the railway along that valley will be furnished with data to enable them to judge how much waterway is necessary. Bengal was also visited by severe floods and storms. In the districts traversed by the Eastern Bengal Railway the waters rose as high as in 1871, when much damage was done to the embankments, but the precautions taken in consequence of that warning had the desired effect, and last season the works did not suffer.

Large bridges.

13. In connexion with the subject of waterway, the subjoined statement which has been received from India, giving the length and dimensions of the principal railway bridges throughout the country, will be of interest.

STATEMENT of COST and of some of the DIMENSIONS of the largest BRIDGES on RAILWAYS in INDIA.

Railway.	Name of Bridge.	1. No. of Spans.	2. Length of Bridge.	3. Depth of Foundation below Low Water.	4. Height from Low Water Level to under side of Girders.	5. Total Cost.	6. Cost per Lineal Foot.	REMARKS.
			Feet.	Feet.	Feet.	Rs.	Rs.	
East Indian -	Jumna (Allahabad).	14	3,030	40	60	40,75,800	1,323	Ten wells in foundations of piers, which are of stone masonry, for a double way, but girders for a single way only yet laid. Common roadway 11 feet 6 inches wide in the clear between the girders. Railway on top of girders.
„ -	Soane - -	28	4,536	32	37·6	26,10,167	575	Double line over this bridge, with footway between girders 5 feet 8 inches wide in the clear. Rails on top of girders. Total cost Rs. 37,67,473, or Rs. 800 per foot, nearly.
„ -	Jumna (Delhi) -	12	2,640	7 to 89	23·5	16,60,354	629	Actual cost. Ten wells in foundations of piers, which are not dressed with stone masonry. Substructure for a double line with girders for a single way on top, with a common roadway between the girders 11 feet 6 inches wide in the clear.
Scinde, Punjaub, and Delhi.	Jumna (Saharunpore).	24	2,865	42	19	13,34,600	500	The contract rate was Rs. 423 per foot, but extensive additions have since become necessary, and the figures shown are the total estimated costs, including the protection works at piers and abutments, exclusive of the cost of the bunds and training works, which are estimated as follows:—Beas, Rs. 3,00,121; Sutlej, Rs. 2,53,850; Jumna, Rs. 1,92,333. Piers are on single wells 12 feet 6 inches diameter.
„ -	Sutlej (Loodianah).	59	6,456	40 to 50	17·5	31,06,076	481	
„ -	Beas - -	34	3,820	43 to 70	21	22,90,366	600	
Eastern Bengal	Gorai Bridge -	7	1,295	78 to 98	51	16,95,009	970	Actual cost for a single railway. Each pier consists of two iron cylinders surmounted by cross girders, on which there is room for another pier of girders for doubling the line. The approaches cost 3 lakhs. Deducting approaches, the cost per foot is Rs. 1,077.
„ -	Approaches to Gorai Bridge.	11	463	25	Dry at low water			

Railway.	Name of Bridge.	1. No. of Spans.	2. Length of Bridge.	3. Depth of Foundation below Low Water.	4 Height from Low Water Level to under side of Girders.	5. Total Cost.	6. Cost per Lineal Foot.	Remarks.
			Feet.	Feet.	Feet.	Rs.	Rs.	
*Oude and Rohilkund.	Ganges (Cawnpore).	25	2,750	50 to 65	31·66	19,40,000	635	Estimated cost. One well of 18 feet and one of 10 feet in pier. Railway over roadway between the girders.
,,	Land Spans	2	80					
,,	Ganges (Rajghát)	33	3,040	55	24·33	9,63,580	317	Estimated cost. One well of 16 feet diameter in pier foundation. Railway on the top of the girders.
,,	Goomtee (Jounpoor).	16	1,472	45 to 50	44·17	9,00,000	611	Estimated cost for broad gauge. Two wells of 16 feet in pier foundation. Railway between the girders.
,,	Ramgunga (Bareilly).	36	2,376	8[illegible]	25·77	10,74,000	452	Estimated cost for broad gauge. Wells of 16 feet and 14 feet in pier foundation. Single cylinders. Railway on top of the girders.
Madras	Veturnee (South)	20	1,250	Average 19	†27·5	3,33,089	266	Piers 3 and 5, iron pile column (double).
,,	,, (North)	23	1,437	,, 17	†27·5	3,30,887	266	Pier 3, iron piles (double).
,,	Parr	14	875	,, 16	†27·5	2,24,516	325	Pier 4, piles, single roadway.
,,	Paupugnee	20	1,400	Average depth of piles below river bed is 15 feet.	19·5	1,62,253	116	The abutments are built of masonry for a double line, and screw pile trestle piers for a single line. Each pier consists of two groups of piles, a group being formed of five piles braced and surmounted by a strong iron casting, over which the openings are spanned by plate girders. Permanent way for single line.
,,	Chittrawutty	40	2,800	12 and 30 feet deep.	20	3,54,705	127	The two abutments, first ten and last ten piers, are built of masonry for a double line, and founded on wells to an average depth of 12 feet below river bed. The remaining 19 piers are of screw piles trestle similar to the Paupugnee, and carried to 30 feet below river bed. Permanent way for single line.
,,	Pennair	24	1,680	11 and 12 feet deep.	21	1,72,525	103	Abutment and piers of masonry for double line. Foundation of abutments and six piers on each side are solid, carried down to an average depth of 13 feet below river bed, and remaining 11 piers in the centre are founded on wells to an average depth of 11 feet below river bed. Permanent way for single line.
Great Indian Peninsula.	Kistna	36	3,865	Average 15·69	†46·51	13,30,001	331	Actual cost.
,,	Taptee (Bhosawul).	33	2,556	,, 17·30	†57·88	13,64,900	534	Actual cost, double line.
,,	Cauvery	22	1,536	Shallow on rock.	36	4,08,752	266	Actual cost, single line over masonry piers built for a double line.
,,	Toongabudra	58	4,060	,,	37	7,55,753	186	
,,	Guerrah (Shahjehanpoor).	18	1,309	70 to 80	17·49	4,50,000	343	Estimated cost for broad gauge. Piers on one circular well, 14 feet diameter. Wrought-iron plate girders with rails on top.
,,	Sale (Jounpoor)	18	1,192	28 to 41	44·75	7,00,000	587	Estimated cost for broad gauge. Piers on two circular wells, 16 feet diameter, abutments open foundations. Railway between girders.
,,	Mhy Mhy	27	1,687	Average 24	†75·5	—	—	Piers of five iron piles.
,,	Bheema	28	1,317	Uncertain	†46·7	2,60,128	197	Double line masonry.
,,	Caugnee	34	2,216	,,	†33·5	7,90,988	357	Sixteen 75 feet girders for single line. Six 60 feet girders for single line, 12 30 feet land. Masonry arches for double line.
,,	Poun	6	1,144	Average 16	†76	16,51,132	1,443	Double line. Four 196 feet and two 127 feet girder openings.
,,	Nerbudda (Jubulpoor).	11	1,056	9	76·83	6,12,463	580	Five 140 feet girders for single lines. Six 40 feet masonry arches for double line.
Bombay, Baroda, and Central India.	Taptee (Surat)	30	1,875	Average 14	†53	3,95,260	497	Actual cost for a double way. Three iron piles in each pier.
,,	Nerbudda (Broach)	67	4,187	,, 37	†48·5	40,93,490	1,167	Actual cost for a double way. Five iron piles in each pier, with a cluster of 10 in every sixth pier.
,,	Saburmuttee	18	1,125	,, 31	†38·5	3,89,852	360	Actual cost. Single line piers of two iron piles.
,,	Bassein (South)	69	4,312	,, 42	†27·5	16,49,561	383	Piers of 3 and 4 iron piles. Double road.
,,	,, (North)	25	1,562	,, 36	†27·5	5,59,306	358	Do. do.
Rajpootana (State).	Jumna (Agra)	16	2,272	,, 70	31·66	16,54,203	728	Estimated cost. Three wells in foundations of piers, which are of stone masonry, and carry girders for a single railway, both broad and narrow between, and common roadway on top.
Punjab (Northern).	Ravee (Lahore)	33	3,217	75	20	19,19,220	597	Estimated cost, without training works, for a narrow gauge railway. Three wells in foundations of piers, which are of brick masonry.
,,	Chenab	64	9,088	75	20	46,78,924	515	Do. do.
,,	Jhelum	50	4,875	30	20·75	15,51,498	319	Do. do.
,,	Sutlej (Bhawulpoor).	16	4,224	100	Minimum of 30.	38,85,780	920	Do. do.

* The figures for the bridges on the Oude and Rohilkund Railway are only approximate, and subject to revision.
† Height of roadway above low water.

N.B.—With the exception of the Cauvery and the Toungabudra, the cost of engineer and general establishment is not included in the above. If it were, the total cost would be increased from one-eighth to one-fourth more, according to circumstances of time and place.

14. Another example of the difficulties arising from the action of water exists at Goalundo, the northern terminus of the Eastern Bengal Railway, where it has been found necessary to incur considerable expense in fortifying the station against the encroachments of the river Ganges. The works erected for this purpose, as described by Col. F. S. Taylor, R.E., Consulting Engineer to the Government of Bengal, "consist of a single spur formed of rubble stone and large concrete blocks, protected by a massive apron of stone, laid in 60 feet of water. This spur has been

Action of rivers at Goalundo.

" projected 500 feet into the stream, and its connexion with the shore has been " made by an embankment of brick ballast, with a clay hearting." The effect of these precautions was watched with much interest during the floods of 1874. It was found at the close of the season that the end of the spur had subsided considerably, but that it had curbed the force of the stream which had been diverted 300 feet from the south bank. This was considered by Mr. Bradford Leslie, who examined the work with Mr. Benedict, the chief engineer of the railway, a satisfactory result, and their recommendation that the spur should be re-formed at the end and generally strengthened has been partially approved by the Government. This will, it is estimated, involve a further expenditure of 26,000*l.*, the cost of the works hitherto having been about 95,000*l.* It is hoped that this important station, which but for the eroding action of the two great rivers, the Ganges and Brahmapootra, which here meet, is so well situated for the traffic coming to the railway from the northern districts of Bengal, will now be permanently secured from all danger.

Railways and the famine.

15. The part that railways played in the great event of the year must not be passed by in silence. It may safely be asserted that without their aid the exertions of Government to supply the famine-stricken districts with the requisite amount of food would have been ineffectual. Praise has justly been bestowed upon the agents and officers of the three railway companies, which were engaged in the duty of conveying grain, for the regularity, expedition, and safety with which the enormous traffic was conducted, and the various arrangements made for handing over the supplies to the Government officers were carried out. The daily despatches from Howrah averaged 2,200 tons. The total quantities delivered by the railways were 306,697 tons of grain, 440,886 tons of rice, and 95,113 tons of pulses, of which 616,993 tons were conveyed by the East Indian Railway from Calcutta, 170,490 by the Scinde, Punjab, and Delhi Railway from the North-West, and 53,370 by the Great Indian Peninsula from the Central Provinces. It is estimated that about 80,000 were also carried by the Eastern Bengal Railway. The rest came from Oude and Rohilkund and from Rajpootana. Of the whole 842,696 tons, 479,696 were purchased by Government, and 363,000 by private traders.

16. The value of railways in such an emergency as that under consideration was fully acknowledged by the Government, who also bore testimony to the energy and judgment displayed by their officers in performing the onerous duty of providing food to the famishing multitudes at the right time and at the proper places.

17. The following extracts from a resolution by the Government of India, dated Calcutta, the 18th February 1875, bearing on the subject, may here be introduced:—

" Great advantage was derived from the arrangement made to reduce at once the rates for the carriage of grain by railway, the difference being paid to the railway companies by the Government. The effect of this measure was to stimulate the importation of grain by railway into the distressed districts; but, owing to the great distance to be traversed and the necessity to traders of quick conveyance in order to secure the profit offered by the rise in prices, this advantage given to the railways did not, materially injure the river trade, which is slow, and, moving in regular course, does not readily adapt itself to a sudden demand.

" The traffic arrangements of the East Indian Railway Company showed the power of the company to meet the strain of a very large additional traffic within a limited time. It is not too much to say that the relief operations could not have been successful, had it not been for the trunk line of railway, which, passing through Behar, unites Calcutta with the Punjab. An additional proof has thus been afforded of the wisdom of the measures for railway construction in India which were commenced by the Marquis of Dalhousie, and have since been steadily prosecuted.

" The manner in which the grain was conveyed from the railways to the places where it was required has afforded a remarkable instance of the great resources of the country in wheeled conveyance, and of the facility with which they may be brought to bear by the offer of profitable rates of hire. The Government of India entirely approved of the contracts made, at Sir Richard Temple's recommendation, for the transport of rice to North Behar. The cost was great, but the danger was not exaggerated. The immediate superintendence of the transport, when it assumed its full dimensions, was entrusted to officers of the army, and the manner in which this duty was performed shows the confidence which may be placed in the efficiency with which such transport would, if necessary, be brought to bear upon military operations."

The special acknowledgments of the Government of India were conveyed to Col. F. S. Taylor, R.E., the Consulting Engineer, and to Captain Wallace, R.E., and Lieut. Bisset, R.E., Deputy Consulting Engineers, for the successful way in which they performed the "exceedingly arduous and responsible" work which devolved upon them, and for the cordial manner in which they co-operated with the officials of the railway company. The Viceroy in Council also congratulated the Members of the Board of Agency of the East Indian Railway Company, Mr. Cecil Stephenson and Mr. G. Sibley, "on the highly successful termination "of their labours in providing for the despatch of supplies of food grain to the "distressed districts," and requested them to convey to Mr. J. C. Batchelor, the traffic manager, to Mr. D. W. Campbell, the locomotive superintendent, and the other officers of the company who were engaged at the time of the great strain upon the resources of the line, the thanks of the Government of India for their services. In like manner were recognised the services of Mr. Franklin Prestage, the agent of the Eastern Bengal Railway, and those of Mr. Joseph Harrison, the acting agent and chief engineer of the Punjab and Delhi Railway, and their respective assistants and staffs.

18. I may also be permitted to quote the following portions of the Minute of Sir Richard Temple, K.C.S.I., the Lieutenant Governor of Bengal, on the services of officers employed under him, in the Railway Department, during the famine relief.

"The construction of the temporary line from the Ganges to Durbhunga (fifty-three miles of length, opened only after fifty-three days' work) was an extraordinary achievement in respect to speed. To carry the line over a country intersected by three considerable streams; to make it strong enough to carry 2,000 tons in a day; to open it within the prescribed time, demanded primarily an indefatigable energy, but also professional skill and administrative ability. All these qualities were displayed by Major F. S. Stanton, R.E., the Engineer-in-chief. Having thus made the line, he worked its heavy State traffic with the same efficiency.

"In this race of work against time, the officer whom he termed his right-hand man was Lieut. W. H. Rathborne, R.E., whose endurance and ability were conspicuous.

"Major Lindsay was Engineer-in-chief of the Northern Bengal State Railway, the commencement of which was undertaken as a relief work. The railway was designed before the famine was apprehended, and will continue to be prosecuted. Throughout the famine he showed every desire to render the railway work useful for purposes of relief. He also undertook several "feeder" roads, that is roads leading from the interior to the sites of railway stations, the labour on which roads afforded employment to the distressed poor.

"The members of the Engineering staff on this line had to keep the works open for all comers during the most insalubrious months of the year, in a country flooded in the rainy season. They were in consequence all prostrated more or less by sickness. Among them the following officers have earned commendation for their conduct:—Mr. W. B. Carter, Superintendent of Works; Mr. T. M. Vigors, Superintendent of Works; Mr. H. W. Henderson, Executive Engineer (who employed many thousands on the railway feeder roads under his charge); Mr. J. M. Luff, Executive Engineer (who also performed much useful grain transport work."

PROCEEDINGS IN THIS COUNTRY.

Amalgamation of Great Southern and Carnatic Railways.

19. The amalgamation of the Great Southern of India and the Carnatic Railway Companies, under the name of the South Indian Railway Company, has been satisfactorily carried out in pursuance of the Act which passed last session, and the new Company is working well.

Proceedings in this country.

20. The duties which have to be performed in this country in connexion with the railways have been discharged with regularity and despatch. The following tables relate to some of the work which has been done, but one of the most important duties executed at home is the general superintendence which embraces a thorough examination of results. The working of every department of each undertaking should be carefully investigated and compared. Thus weak points in one may be discovered and the success of another may be proved, furnishing examples to follow or avoid.

Shipping operations.

21. It will be seen by the following tables that 156,636 tons of materials, exclusive of coal, have been shipped for the various lines during the past year, and that 108,478 tons of fuel have also been despatched. The gradual development of the

coal resources of India which is now going on will reduce this latter item in future years. Five ships were lost during the year; one with goods for the East Indian Railway, valued at 1,632*l.*, three with coal for the Bombay, Baroda, and Central India Railway, of the value of 9,454*l.*, and one with stores for the Government, valued at 6,149*l.* All were insured but the last.

SHIPPING OPERATIONS, exclusive of Fuel, during 1874 on Account of the Guaranteed and State Railways.

Railway.	Number of Ships employed in 1874.	Number of Tons of Goods shipped in 1874.	Value of Goods shipped in 1874.	Amount paid for Freight and Insurance in 1874.	Average Rate of Freight and Insurance per Ton.
		Tons.	£	£	£ s. d.
East Indian - - -	37	2,977	82,005	7,098	2 7 7
Great Indian Peninsula - -	40	9,393	74,862	18,613	1 19 8
Madras - - - -	37	3,588	47,880	7,372	2 1 1
Bombay, Baroda, and Central India	27	2,256	29,916	5,270	2 6 9
Scinde, Punjab, and Delhi -	15	2,708	44,419	7,848	2 17 11
South Indian - - -	50	44,622	378,027	72,978	1 12 8
Eastern Bengal - - -	12	171	2,171	223	1 6 0
Oude and Rohilkund - -	21	3,168	93,401	6,662	2 2 1
State Railways - - -	189	87,753	1,139,882	147,532*	1 13 9*
Total - - -	428	156,636	1,892,552	283,596	

* Without insurance.

AMOUNT and COST of COAL and other FUEL sent out from this Country in 1874.

Railway Company.	Number of Tons supplied from England.			Total original Cost.			Sum paid for Freight and Insurance.	Average Cost of each Ton when bought in England.			Average Cost of each Ton delivered in India.		
	Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.		Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.
				£	£	£	£	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
East Indian* -	200	556	—	240	1,252	—	1,492	24 0	45 0	—	57 6	86 8	—
Great Indian Peninsula -	55,681	—	—	45,246	—	—	87,169	16 3	—	—	47 6	—	—
Madras -	11,360	860	799	10,053	731	699	23,343	17 8	17 0	17 6	49 1	54 3	45 5
Bombay, Baroda, & Central India.	34,539	—	2,914	81,378	—	6,769	Included in price.	—	—	—	47 2	—	46 5½
South Indian -	1,469	-	—	1,094	—	—	1,420	34 3	—	—	38 3	—	—
Eastern Bengal -		100		122			79		24 6			40 0	—
Totals -	103,249	1,516	3,713	138,133	1,983	7,468							

* For foundry purposes.

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.	Number of Ships lost.	Number of Tons of Goods shipped.	Amount paid in England for Goods shipped.
				£
Up to end of 1860 - - -	2,605	39	2,094,686	10,431,976
In 1861 - - - -	407	—	181,621	1,669,443
„ 1862 - - - -	280	1	138,013	1,487,582
„ 1863 - - - -	279	2	166,840	1,285,464
„ 1864 - - - -	233	—	102,318	1,018,164
„ 1865 - - - -	442	2	199,157	1,729,543
„ 1866 - - - -	581	7	312,227	2,527,757
„ 1867 - - - -	512	5	333,329	3,052,652
„ 1868 - - - -	364	3	188,858	1,849,554
„ 1869 - - - -	455	1	211,750	1,432,784
„ 1870 - - - -	461	1	263,449	1,688,209
„ 1871 - - - -	307	6	168,049	707,765
„ 1872 - - - -	318	1	66,534	655,822
„ 1873 - - - -	404	2	201,590	1,561,602
„ 1874 - - - -	426	5	265,114	2,042,136
Total - -	8,074	75	4,893,535	33,140,453

22. The manner in which the 95,119,119*l.* of capital issued by eight companies under the "guarantee" is held, will be seen by the subjoined statement. The remarkable feature of the return is the small number of shareholders in India, especially of natives. Share-holders.

Railway.	Number of Shareholders on 31st December 1874.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1874.
	Registered in England.			In India.					
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.	Bond.	Stock.	
East Indian - - -	7,045	8,181	15,226	125	168	293	872	885	17,276
Great Indian Peninsula -	5,518	7,529	13,047	134	147	281	535	1,452	15,315
Madras - - -	3,101	4,098	7,199	—	—	—	194	—	7,393
Bombay, Baroda, and Central India -	2,360	3,821	6,181	13	40	53	*243	—	6,477
Scinde, Punjab, and Delhi - - -	3,409	5,221	8,630	72	13	85	—	—	8,715
South Indian - -	919	1,502	2,421	—	—	—	—	127	2,548
Eastern Bengal - -	654	982	1,636	24	22	46	55	151	1,888
Oude and Rohilkund -	1,044	1,413	2,457	80	26	106	†—	125	2,688
Total - -	24,050	32,747	56,797	448	416	864	1,899	2,740	62,300

* One allotment of 200,000*l.* is represented by one out of this number.
† The bonds issued by this company being payable to "bearer," and transferable, no record of the number of holders exists.

PERSONS EMPLOYED ON THE RAILWAYS.

23. It will be seen by the following tables that, on the 30th September 1874, the total number of persons employed on the railways amounted to 101,595, of whom 96,013 were natives, 3,239 Europeans, and 2,343 East Indians. This number is 25,934 in excess of last year, while the mean open mileage has increased from 5,464 to 6,020. On the East Indian alone the number rose from 21,615 to 35,676, owing, no doubt, to the great additional work in connexion with the grain traffic to the districts where scarcity prevailed. The cause being temporary, a reduction will have since been made. Railway officers and servants.

24. Endeavours are being made to employ natives and Indian-born more generally, and to train them to the duties of mechanics, platelayers, and fitters. In some cases considerable success has attended the attempt. There is more difficulty in making them engine-drivers and shunters, but examples exist to show that the necessary qualifications for these duties may, with proper training and practice, be attained.

25. It appears by a classified return of persons employed on the Great Indian Peninsula Railway, that out of 180 drivers in the service of the Company on the 31st December last, 163 were Europeans, 12 East Indians, 4 Parsees, and 1 African. Out of 99 firemen, 52 were Europeans, 22 East Indians, 3 Portuguese, 18 Parsees, 3 Africans, and 1 Hindoo. Where mechanical work only is required the natives are employed in greater numbers. For instance, out of 509 fitters, 116 were Hindoos, 145 Parsees, 93 Mussulmans, and 59 Europeans. Out of 966 carpenters, 620 were Hindoos, 113 Portuguese, 150 Parsees, and only 3 Europeans. Some idea of the economy that would result from the more extended employment of natives may be gathered from the fact that while the average amount of wages per month earned by Europeans in the locomotive department was 127 Rs., say 12*l.* 10*s.*, the average received by Hindoos was 22 Rs. or 2*l.* 4*s.*, by Mussulmans 19 Rs. or 1*l.* 18*s.*, by Chinese 32 Rs. or 3*l.* 6*s.*, by Parsees 38 Rs. or 3*l.* 16*s.*, by East Indians 65 Rs. or 6*l.* 10*s.*

26. On the Madras line many East Indians are employed in the capacity of shunters, engine-drivers and firemen. Col. White, Consulting Engineer to the Bombay Government, says, after a visit to the Madras line, "that a good class of "men can be raised out of the native labourer fit for even higher duties, is "shown by the fact that at the Madras Terminal Station, all the shunting "operations are conducted by a native, drawing Rs. 75 a month, who has risen from "the position of a porter." On the East Indian also natives are being employed as shunters with great success, and native guards are also being introduced.

27. I may mention that on the Oude and Rohilkund Railway the novel arrangement of employing female servants as ticket collectors and attendants on carriages reserved for women has been adopted with success.

Education of European children.

28. Schools are established for the children of the European servants, but I have only received particulars of those which are associated with the East Indian Railway. On this line there are 18 schools receiving aid from the Company and grants from the Government. Mr. Campbell, the Locomotive Superintendent, who has had the management of these schools for several years, reports that for the half year ended the 31st December 1874 the average monthly income amounted to Rs. 2,143, consisting of, school fees Rs. 841, Government grants Rs. 695, Railway grant Rs. 607. The attendance compares favourably with that of schools in this country. The number of pupils on the roll was 647 and the average daily attendance 556, which was 87 more than the former and 118 higher than the latter in the previous year. It has been arranged that the heads of departments shall take turns in the management each year.

ACCIDENTS.

Accidents.

29. The total number of accidents to trains during the year was 767 compared with 621 in the previous year, but 407, or about 51 per cent., of these were cases of running over cattle, causing no harm to passengers or stock. The others were caused by collisions, of which there were 68; by vehicles getting off the line, of which there were 103; by fire, of which there were 92. The rest were due to various minor causes. Of the 24,553,620 holders of passenger tickets, 13 were killed and 70 were injured, but 12 of the former and 27 of the latter were cases arising from imprudence or misconduct of the sufferers. Thus, in round numbers, there was only one passenger out of the 24½ millions whose death was owing to causes beyond his control, making the average ·04 per million. One in 571,000, or 1·75 per million, was in like manner injured. This compares favourably with railway travelling in this country, where during last year, one in 2,274,881 was killed, and one in 242,302 was injured from causes beyond their control. The casualties amongst the railway servants were 106 killed and 181 injured, 93 of the former and 140 of the latter from causes within their control.

Causes of accidents.

30. Of the 68 cases of collision, 34 are attributed to the fault of drivers, 12 to the station staff, 9 to pointsmen, and 9 to workmen employed on the line. Altogether, 6 persons were killed and 56 injured from this cause. The most serious collision was on the Great Indian Peninsula Railway, when a special troop train and a goods train ran into each other, causing death to 4 railway servants, and injury to 23 passengers and 2 servants. The number of accidents from trains and vehicles leaving the line amounted to 103, of which 49 were occasioned by the carelessnes of the railway servants, chiefly pointsmen. The casualties were 19, 2 killed and 17 wounded, 12 of the latter receiving injuries in an accident on the East Indian Railway in October, during the cyclone, when a mixed train was met by the full force of the wind and brought to a standstill, completely upsetting 23 vehicles and breaking the engine coupling. The accidents from fire numbered 92, 82 of which were caused by sparks from engines, but no injury was done to passengers or railway servants.

31. The 407 cases of running over cattle were said to be due principally to the defective state of the fencing. It does not appear whether the locomotives were invariably armed with cow-catchers, but these, when used, were not always effectual in preventing the animals being run over. Two cases are reported of horses escaping from trains. In one a pony, and in the other, two horses, jumped from their boxes, the pony and one horse being run over and killed, the other horse escaping unhurt. Among the minor miscellaneous causes were those arising from the carelessness of pointsmen, the sleepiness or negligence of gatesmen, and failure of machinery. Six also occurred from malicious attempts to throw trains off the line, but they were all the acts of mischievous boys, who were caught and punished. Accidents to passengers seem, as usual, chiefly to have arisen from attempts to get in and out of trains while in motion.

32. Several deaths occurred amongst passengers in the carriages or at the stations from causes unconnected with the working of the railway, such as diarrhœa, dysentery, fever, cholera, small-pox, heat apoplexy, sunstroke, &c. Many of these arise from passengers attempting to travel when quite unfit for a journey, some actually starting in a dying state in the hope of reaching home or a sacred spot.

NUMERICAL RETURN of all Races employed on open Lines of Railways in India, and on the Indus Steam Flotilla, on the 30th September 1874.

RAILWAYS.	General Administration, including Agency, Audit, Account, Paymaster's Stores, Medical, Barrack, Printing, Stationery, and Police Establishments.				Traffic and Telegraph Departments.				Engineer's Department.				Locomotive and Carriage and Wagon Departments, including Steamboat Establishment.				Total.				Number of Miles open.	Number of Stations.
	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.		
East Indian	68	35	3,287	3,390	332	194	10,519	11,045	76	17	11,018	11,111	642	217	9,271	10,130	1,118	463	34,095	35,676	1,503¾	152
Eastern Bengal	13	2	712	727	69	42	1,178	1,289	16	7	1,547	1,570	90	38	1,710	1,838	188	89	5,147	5,424	159	34
Oude and Rohilkhund	28	30	571	629	26	13	825	864	60	23	4,570	4,653	59	34	1,891	1,984	173	100	7,857	8,130	540	76
Punjab and Delhi	48	12	476	536	97	36	1,472	1,605	29	8	3,252	3,289	121	88	2,766	2,925	295	94	7,966	8,355	554	47
Scinde	3	14	190	207	7	25	148	180	5	2	589	596	73	68	1,028	1,169	88	109	1,955	2,152	109¼	9
Calcutta and South-eastern (State)	1	—	12	13	—	—	74	74	—	1	100	101	1	1	40	42	2	2	226	230	28	8
Nulhatee (State)	1	—	13	14	—	—	42	42	—	—	69	69	1	—	60	61	2	—	184	186	27¼	6
Rajpootana (State)	18	10	160	188	15	19	257	291	28	5	1,559	1,592	24	6	161	191	85	40	2,137	2,262	216	26
Holkar (State)	1	—	12	13	4	1	68	73	1	1	102	104	4	1	36	41	10	3	218	231	37	5
Madras	14	45	455	514	35	308	1,944	2,287	34	80	4,384	4,498	138	328	2,214	2,675	221	756	8,997	9,974	858	85
South Indian	7	18	120	145	2	20	274	296	3	4	610	617	23	25	141	189	35	67	1,145	1,247	187	26
Great Indian Peninsula	39	31	1,099	1,169	309	206	3,516	4,031	85	23	9,692	9,800	468	112	5,942	6,522	901	372	20,249	21,522	1,266½	136
Bombay, Baroda, and Central India*	16	30	616	662	16	53	1,388	1,457	22	9	2,686	2,717	67	156	1,147	1,370	121	248	5,837	6,206	448⅗	77
Total on Railways under the Government of India.	181	103	5,433	5,717	550	330	14,583	15,463	215	64	22,806	23,085	1,015	403	16,963	18,381	1,961	900	59,785	62,646	3,174¼	363
Total on Railways under the Government of Madras.	21	63	575	659	37	328	2,218	2,583	37	84	4,994	5,115	161	348	2,355	2,864	256	823	10,142	11,221	1,045	111
Total on Railways under the Government of Bombay.	55	61	1,715	1,831	325	259	4,904	5,488	107	32	12,378	12,517	535	268	7,089	7,892	1,022	620	26,086	27,728	1,714¾	213
Total Indian Railways	257	227	7,723	8,207	912	917	21,705	23,534	359	180	40,178	40,717	1,711	1,019	26,407	29,137	3,239	2,343	96,013	101,595	5,934	687

* Inclusive of Dhuboe Patree and Dakore branches.

No. I.

NUMERICAL RETURN of CASUALTIES, whether by Death, Resignation and Discharge, or Dismissal, amongst the European and East Indian Employés on the Railways open for Traffic in India during the Nine Months ending 30th September 1874.

RAILWAYS.	GENERAL ADMINISTRATION, INCLUDING AGENCY, AUDIT, ACCOUNT, PAYMASTER'S STORES, MEDICAL, BARRACK, PRINTING, STATIONERY, AND POLICE ESTABLISHMENTS.										TRAFFIC AND TELEGRAPH DEPARTMENT.										ENGINEER'S DEPARTMENT.										LOCOMOTIVE AND CARRIAGE AND WAGON DEPARTMENTS, INCLUDING STEAMBOAT ESTABLISHMENTS.										TOTAL.										MEAN MILEAGE OPEN.	REMARKS.
	Europeans.					East Indians.					Europeans.					East Indians.					Europeans.					East Indians.					Europeans.					East Indians.					Europeans.					East Indians.						
	No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by					
		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.			
East Indian	68	1	3	—	4	35	—	2	—	2	332	2	73	73	148	194	1	43	38	82	76	2	7	1	10	17	—	—	1	1	642	11	191	82	284	217	3	33	17	53	1,118	16	274	156	446	463	4	78	56	138	1,503¼	
Eastern Bengal	13	—	4	2	6	2	—	—	—	—	67	—	15	15	30	40	—	4	7	11	17	1	1	1	3	7	—	2	—	2	90	—	6	16	22	33	—	6	2	8	187	1	26	34	61	87	—	12	9	21	159	
Oude and Rohilkund	28	—	1	—	1	30	1	—	2	3	26	—	4	4	8	13	—	5	—	5	60	3	5	3	11	23	—	3	4	7	59	1	12	—	13	34	—	8	—	8	173	4	22	7	33	100	1	16	6	23	530	
Punjab and Delhi	57	—	9	—	9	15	1	2	—	3	108	—	14	22	36	41	2	5	13	20	40	—	7	4	11	11	—	3	—	3	138	1	50	7	58	41	1	22	3	26	343	1	80	33	114	108	4	32	16	52	554	
Scinde	3	—	—	—	—	14	—	—	—	—	7	—	—	1	1	25	2	—	—	2	5	—	—	—	—	2	—	—	—	—	30	2	3	4	9	70	1	2	—	3	95	2	3	5	10	111	3	2	—	5	109½	
Calcutta and South-eastern (State).	1(a)	—	—	—	—	—	—	—	—	—	15	—	1	—	1	—	—	—	—	—	15	—	1	—	1	1	—	—	—	—	1(a)	—	1	—	1	1	—	2	—	2	4	—	3	—	3	2	—	2	—	2	28	(a) One European only is employed in the General Administration and one in the Locomotive Department of these two railways, but entries are made against each line. (b) These two persons are no longer in the service.
Nulhattee (State)	1(a)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1(a)	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	27½	
Rajpootana (State)	18	—	—	—	—	1	—	—	—	—	15	2	4	4	10	19	—	9	1	10	28	—	1	1	2	5	—	1	—	1	24	—	3	6	9	6	—	2	2	4	85	2	8	11	21	40	—	12	3	15	141	
Holkar (State)	1	—	—	—	—	—	—	—	—	—	4	—	3	1	4	1	1	—	—	1	1	—	—	—	—	1	—	—	—	—	4	—	—	2	2	1	—	—	—	—	10	—	3	3	6	3	1	—	—	1	36	
Madras	14	—	1	1	2	45	1	6	1	8	40	1	3	1	5	354	1	32	17	50	32	1	2	—	3	30	1	6	3	10	142	5	10	3	18	306	1	16	1	18	228	7	16	5	28	785	4	60	22	86	858	
South Indian	10	1	2	—	3	19	1	—	—	1	2	—	—	—	—	20	—	1	2	3	4	—	1	—	1	6	—	2	—	2	34	—	8	3	11	37	1	4	8	13	80	1	11	3	15	82	2	7	10	19	187	
Great Indian Peninsula	39	3	4	—	7	31	—	2	2	4	309	8	42	6	56	206	1	36	5	42	84	1	13	—	14	27	—	1	—	1	472	11	89	16	116	117	—	21	—	21	904	23	148	22	193	381	1	60	7	68	1,266½	
Bombay, Baroda, and Central India.	16	—	—	—	—	31	—	3	1	4	17	—	1	—	1	58	1	3	1	5	29	—	6	1	7	11	—	6	—	6	67	5	9	2	16	156	—	29	11	40	129	5	16	3	24	256	1	41	13	55	442½	
Total on Railways under Government of India.	190	1	17	2	20	106	2	4	2	8	560	4	114	120	238	333	6	66	59	131	223	6	23	10	38	67	—	9	5	14	1,039	15	266	117	398	408	5	75	24	104	2,017	26	410	249	694	914	13	154	90	257	3,083½	
Total on Railways under Government of Madras.	24	1	3	1	5	64	2	6	1	9	42	1	3	1	5	374	1	33	19	53	36	1	3	—	4	36	1	8	3	12	176	5	18	6	29	343	2	20	9	31	278	8	27	8	43	867	6	67	32	105	1,045	
Total on Railways under Government of Bombay.	55	3	4	—	7	62	—	5	3	8	326	8	43	6	57	264	2	39	6	47	113	1	19	1	21	38	—	7	—	7	539	16	98	18	132	273	—	50	11	61	1,033	28	164	25	217	637	2	101	20	123	1,708½	
Total Indian Railways	269	5	24	3	32	232	4	15	6	25	928	13	160	127	300	971	9	138	84	231	377	8	44	11	63	191	1	24	8	33	1,754	36	382	141	559	1,024	7	145	44	196	3,328	62	610	282	954	2,418	21	322	142	485	5,841½	

No. II.

STATEMENT showing the NUMBER of SERVANTS EMPLOYED in the TRAFFIC DEPARTMENT of all Railways open for Traffic in India, and the CASUALTIES amongst them, whether by Death, Resignation and Discharge, or Dismissal, during the Nine Months ending 30th September 1874, distinguishing those engaged in India and in England.

RAILWAYS.	ENGAGED IN ENGLAND.										ENGAGED IN INDIA.																TOTAL.										REMARKS.
	STATION MASTERS, GUARDS, ASSISTANT GUARDS, AND ALL ENGAGED IN WORKING TRAINS.					OTHERS.					STATION MASTERS, GUARDS, ASSISTANT GUARDS, AND ALL ENGAGED IN WORKING TRAINS.								OTHERS.																			
	Europeans.					Europeans.					Europeans.					East Indians.					Europeans.					East Indians.					Europeans.					East Indians.					
	No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				
		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.	
East Indian	—	—	—	—	—	3	—	—	—	—	282	2	53	66	121	61	1	8	6	15	65	—	20	7	27	98	—	31	29	60	320	2	73	73	148	159	1	39	35	75	
Eastern Bengal	—	—	—	—	—	2	—	—	—	—	41	—	9	11	20	9	—	1	6	7	24	—	6	4	10	31	—	3	1	4	67	—	15	16	30	40	—	4	7	11	
Oude and Rohilkund	—	—	—	—	—	—	—	—	—	—	23	—	4	4	8	12	—	5	—	5	3	—	—	—	—	1	—	—	—	—	26	—	4	4	8	13	—	5	—	5	
Punjab and Delhi	1	—	—	—	—	4	—	—	—	—	68	—	8	14	22	19	2	2	3	7	35	—	6	8	14	22	—	3	10	13	108	—	14	22	36	41	2	5	13	20	
Scinde	—	—	—	—	—	—	—	—	—	—	6	—	—	1	1	9	2	—	—	2	1	—	—	—	—	16	—	—	—	—	7	—	—	1	1	25	2	—	—	2	
Calcutta and South-eastern (State)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	—	—	—	—	—	1	—	1	—	1	—	—	—	—	—	
Nulhattee (State)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Rajpootana (State)	—	—	—	—	—	—	—	—	—	—	12	2	4	4	10	19	—	9	1	10	3	—	—	—	—	—	—	—	—	—	15	2	4	4	10	19	—	9	1	10	
Holkar (State)	—	—	—	—	—	—	—	—	—	—	4	—	3	1	4	1	1	—	—	1	—	—	—	—	—	—	—	—	—	—	4	—	3	1	4	1	1	—	—	1	
Madras	—	—	—	—	—	7	—	—	—	—	23	1	3	—	4	209	1	15	10	26	7	—	—	1	1	59	—	9	3	12	37	1	3	1	5	268	1	24	13	38	
South Indian	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16	—	1	2	3	2	—	—	—	—	4	—	—	—	—	2	—	—	—	—	20	—	1	2	3	
Great Indian Peninsula	9	—	—	—	—	4	—	—	—	—	268	8	35	6	49	101	—	23	3	26	38	—	7	—	7	105	1	13	2	16	309	8	42	6	56	206	1	36	5	42	
Bombay, Baroda, and Central India	—	—	—	—	—	4	—	—	—	—	10	—	1	—	1	23	1	—	—	1	3	—	—	—	—	35	—	3	1	4	17	—	1	—	1	58	1	3	1	5	
Total on Railways under the Government of India	1	—	—	—	—	9	—	—	—	—	406	4	81	101	186	130	6	25	16	47	132	—	33	19	52	168	—	37	40	77	548	4	114	120	238	298	6	62	56	124	
Total on Railways under the Government of Madras	—	—	—	—	—	7	—	—	—	—	23	1	3	—	4	225	1	16	12	29	9	—	—	1	1	63	—	9	3	12	39	1	3	1	5	288	1	25	15	41	
Total on Railways under the Government of Bombay	9	—	—	—	—	8	—	—	—	—	268	8	36	6	50	124	1	23	3	27	41	—	7	—	7	140	1	16	3	20	326	8	43	6	57	264	2	39	6	47	
Total Indian Railways	10	—	—	—	—	24	—	—	—	—	697	15	120	107	240	479	8	64	31	103	182	—	40	20	60	371	1	62	46	109	913	13	160	127	300	860	9	126	77	212	

N.B.—With the exception of the East Indian and Madras Railways, the figures of all the other railways represent the casualties in both the Traffic and Telegraph Departments.

No. III.

STATEMENT showing the NUMBER of SERVANTS EMPLOYED in the LOCOMOTIVE and CARRIAGE and WAGON DEPARTMENTS of all Railways open for Traffic in India, and the CASUALTIES amongst them, whether by Death, Resignation and Discharge, or Dismissal, during the Nine Months ending 30th September 1874, distinguishing those engaged in England and in India.

RAILWAYS.	ENGAGED IN ENGLAND.										ENGAGED IN INDIA.																TOTAL.										REMARKS.
	DRIVERS, FIREMEN, PILOTMEN, AND ALL WORKING ON MOVING ENGINES.						OTHERS.				DRIVERS, FIREMEN, PILOTMEN, AND ALL WORKING ON MOVING ENGINES.								OTHERS.																		
	Europeans.						Europeans.				Europeans.					East Indians.					Europeans.					East Indians.					Europeans.					East Indians.					
	No. employed.	No. of Casualties by					No. employed.	No. of Casualties by			No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				No. employed.	No. of Casualties by				
		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.		Death.	Resignation and discharge.	Dismissal.	Total.	
East Indian	115	2	39	3	44	96	—	2	1	3	290	7	131	66	204	72	2	10	9	21	141	2	19	12	33	145	1	23	8	32	642	11	191	82	284	217	3	33	17	53	
Eastern Bengal	3	—	—	—	—	8	—	—	2	2	57	—	4	14	18	14	—	3	—	3	22	—	2	—	2	24	—	3	2	5	99	—	6	16	22	38	—	6	2	8	
Oude and Rohilkund	3	—	—	—	—	6	—	—	—	—	33	—	9	—	9	13	—	2	—	2	17	1	3	—	4	21	—	6	—	6	59	1	12	—	13	34	—	8	—	8	
Punjab and Delhi	1	—	—	—	—	10	1	—	—	1	92	—	42	7	49	27	1	17	3	21	35	—	8	—	8	14	—	5	—	5	138	1	50	7	58	41	1	22	3	26	
Scinde	—	—	—	—	—	2	—	1	—	1	7	1	—	—	1	1	—	—	—	—	8	—	1	—	1	23	—	1	—	1	17	1	2	—	3	29	—	1	—	1	
Calcutta and South-eastern (State)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	2	—	2	1*a*	—	1	—	1	—	—	—	—	—	1	—	1	—	1	F	—	2	—	2	
Nulhattee (State)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1*a*	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	
Rajpootana (State)	5	—	—	—	—	5	—	—	—	—	14	—	3	6	9	5	—	2	2	4	—	—	—	—	—	1	—	—	—	—	24	—	3	6	9	6	—	2	2	4	
Holkar (State)	1	—	—	—	—	1	—	—	—	—	2	—	—	2	2	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	4	—	—	2	2	1	—	—	—	—	
Madras	6	—	—	—	—	19	2	1	—	3	52	2	6	3	11	97	—	7	—	7	65	1	3	—	4	209	1	9	1	11	142	5	10	3	18	306	1	16	1	18	
South Indian	5	—	1	—	1	6	—	1	—	1	19	—	5	3	8	13	1	1	3	5	4	—	1	—	1	24	—	3	5	8	34	—	8	3	11	37	1	4	8	13	
Great Indian Peninsula	52	2	9	1	12	72	1	12	—	13	196	6	33	13	52	49	—	6	—	6	152	2	35	2	39	68	—	15	—	15	472	11	89	16	116	117	—	21	—	21	
Bombay, Baroda, and Central India	17	1	2	1	4	14	2	—	—	2	23	2	5	1	8	17	—	5	2	7	13	—	2	—	2	139	—	24	9	33	67	5	9	2	16	156	—	29	11	40	
Total on Railways under the Government of India	128	2	39	3	44	128	1	3	3	7	495	8	189	95	292	133	3	36	14	53	225	3	34	12	49	234	1	38	10	49	976	14	265	113	392	367	4	74	24	102	
Total on Railways under the Government of Madras	11	—	1	—	1	25	2	2	—	4	71	2	11	6	19	110	1	8	3	12	69	1	4	—	5	233	1	12	6	19	176	5	18	6	29	343	2	20	9	31	
Total on Railways under the Government of Bombay	69	3	11	2	16	86	3	12	—	15	219	8	38	14	60	66	—	11	2	13	185	2	37	2	41	207	—	39	9	48	539	16	98	18	132	273	—	50	11	61	
Total Indian Railways	208	5	51	5	61	239	6	17	3	26	785	18	238	115	371	309	4	55	19	78	459	6	75	14	95	674	2	89	25	116	1,691	35	381	137	553	983	6	144	44	194	

(*a*) One European only is employed in the General Administration, and one in the Locomotive Department of these two railways, but entries are made against each line.

Table No. 1.

Abstract of the Number and Nature of the Accidents and of the Injuries to Life and Limb which have occurred on all Railways open for Traffic in India during the Year 1874.

Under the Control of the Government of	Mean Mileage open.	Railways.		Classification of Accidents to Trains, &c. — Main Heads. I. Collision.	II. Getting off proper Line.	III. Fire.	IV. Running over Cattle.	V. Other Causes.	Total.	Passengers. From Causes beyond their own Control. Killed.	Injured.	From their own Misconduct or want of Caution. Killed.	Injured.	Servants of Companies or of Contractors. From Causes beyond their own Control. Killed.	Injured.	From their own Misconduct or want of Caution. Killed.	Injured.	Others. Whilst crossing at Level Crossings. Killed.	Injured.	Whilst trespassing (including Suicide). Killed.	Injured.	Miscellaneous. Killed.	Injured.	Total Persons of all Classes. Killed.	Injured.	Killed and Injured.
India	1,504	East Indian	1874	36	21	20	184	6	267	1	18	8	17	1	13	27	70	8	1	51	10	7	3	103	132	235
	1,504		1873	34	25	15	115	27	216	—	15	6	20	1	5	19	65	3	—	42	10	4	4	75	119	194
	158	Eastern Bengal	1874	1	—	—	1	—	2	—	—	—	1	—	—	6	9	—	—	1	—	—	—	7	10	17
	157		1873	3	—	—	—	—	3	—	2	—	1	—	—	2	5	—	—	2	—	1	—	5	8	13
	524	Oude and Rohilkund	1874	5	7	12	18	13	55	—	1	—	1	1	8	7	7	—	—	5	—	1	1	14	18	32
	374½		1873	3	5	13	12	3	36	1	13	—	—	1	2	8	7	2	—	1	—	—	—	13	22	35
	554	S. P. & D. Section. Punjab	1874	6	14	19	4	14	57	—	1	—	1	—	—	4	4	—	—	6	1	1	—	11	7	18
	556		1873	12	24	14	10	16	76	—	—	1	3	—	9	14	7	—	—	4	1	1	—	20	20	40
	109	S. P. & D. Section. Scinde	1874	—	1	10	15	18	44	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1
	105		1873	—	2	14	13	12	41	—	—	1	—	—	2	—	1	—	—	—	—	—	—	1	3	4
	28	Calcutta and South-eastern (State).	1874	2	4	—	31	—	37	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	2	2
	28		1873	—	—	—	2	—	2	—	—	—	—	—	—	—	1	1	—	—	—	1	—	2	1	3
	27¼	Nulhatee (State)	1874	—	1	1	2	2	6	—	—	1	2	—	—	—	—	—	—	—	—	—	—	1	2	3
	27¼		1873	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	173	Rajpootana (State)	1874	2	19	—	12	10	43	—	—	—	—	—	—	9	2	—	—	2	—	—	—	11	2	13
	91		1873	2	4	1	5	2	14	—	—	—	—	—	—	1	1	—	—	—	—	—	—	1	1	2
	36	Holkar (State)	1874	1	1	—	—	—	2	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1
	Nil.		1873	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Madras	857	Madras	1874	1	18	19	48	6	92	—	—	1	1	3	6	6	7	—	—	5	—	2	—	17	14	31
	843		1873	1	7	5	46	5	64	—	—	—	1	—	—	9	2	—	—	5	1	1	—	15	4	19
	186	South Indian	1874	—	2	—	22	—	24	—	—	—	2	—	—	—	—	1	—	—	—	—	—	1	2	3
	187		1873	—	—	—	18	1	19	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	2	2
Bombay	1,420	Great Indian Peninsula (a).	1874	12	15	11	45	23	106	—	28	—	1	7	12	22	29	1	—	5	2	3	3	38	70	108
	1,279½		1873	18	27	8	40	18	111	2	15	—	2	—	7	13	33	2	1	3	5	1	1	21	64	85
	444	Bombay, Baroda, and Central India (b).	1874	2	—	—	25	5	32	—	—	2	1	1	2	10	11	1	1	2	3	—	1	16	19	35
	423¾		1873	3	9	—	22	4	38	—	9	2	2	—	3	6	11	1	—	1	2	3	1	13	28	41
Total Indian Railways	6,020½	- - - -	1874	68	103	92	407	97	767	1	43	12	27	13	41	93	140	11	2	77	16	14	9	221	278	499
	5,575¾		1873	76	103	70	283	89	621	3	54	10	29	2	28	72	134	9	1	58	20	12	6	166	272	438

(a) Includes Wardha Valley State Railway, Nizam's State Railway, and Berar Branch Railway.

(b) Includes Dubhoe Branch Railway.

TABLE No. II.—NUMERICAL ABSTRACT of ACCIDENTS OF ALL CLASSES on all Railways open for Traffic in India during the Year 1874.

	UNDER THE CONTROL OF THE GOVERNMENT OF INDIA.																		UNDER THE CONTROL OF THE GOVERNMENT OF MADRAS.				UNDER THE CONTROL OF THE GOVERNMENT OF BOMBAY.				Total.		
	East Indian.		Eastern Bengal.		Oude and Rohilkund.		Punjab and Delhi.		Scinde.		Calcutta and South-Eastern.		Nulhatee.		Rajpootana.		Holkar.		Madras.		South Indian.		Great Indian Peninsula.		Bombay, Baroda, & Central India.				
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed & Injured.
PASSENGERS.																													
From causes beyond their own control, viz.:—																													
From accidents to trains	..	17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	23	..	..	..	40	40
From other causes	1	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	4
Total	1	18	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	23	..	..	1	43	44
Per million of passengers	0·16	2·97	..	..	..	0·51	..	0·49	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6·86	..	..	0·04	1·75	1·79
Per million of passenger miles	0·002	0·04	..	..	..	0·01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
From their own misconduct or incaution	8	17	..	1	..	1	..	1	..	..	..	..	1	2	..	..	..	..	1	1	..	2	..	1	2	1	12	27	39
Per million of passengers	1·32	2·81	..	0·60	..	0·51	..	0·49	..	..	..	..	14·31	28·63	..	..	..	..	0·36	0·36	..	1·81	..	0·30	0·53	0·26	0·49	1·10	1·59
Per million of passenger miles	0·017	0·037	..	0·018	..	0·01	..	..	..	..	..	..	0·38	1·15	..	..	..	..	0·007	0·007	..	0·04	..	..	..	..	..	..	..
Total from all causes	9	35	..	1	..	2	..	2	..	..	..	..	1	2	..	..	..	..	1	1	..	2	..	24	2	1	13	70	83
SERVANTS OF COMPANIES OR OF CONTRACTORS.																													
From causes beyond their own control	1	13	..	..	1	8	..	..	..	..	..	..	..	..	..	..	..	..	3	6	..	..	7	12	1	2	13	41	54
From their own misconduct or incaution	27	70	6	9	7	7	4	4	1	..	..	1	..	..	9	2	1	..	6	7	..	..	22	29	10	11	93	140	233
Total from all causes	28	83	6	9	8	15	4	4	1	..	..	1	..	..	9	2	1	..	9	13	..	..	29	41	11	13	106	181	287
OTHER PERSONS.																													
Crossing at level crossings	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	1	11	2	13
Trespassers, including suicide	51	10	1	..	5	..	6	1	..	..	..	..	..	..	2	..	..	..	5	..	..	..	5	2	2	3	77	16	93
Miscellaneous	7	3	..	..	1	1	1	..	..	..	..	1	..	..	..	..	..	..	2	..	..	..	3	3	..	1	14	9	23
Total from all causes	66	14	1	..	6	1	7	1	..	..	..	1	..	..	2	..	..	..	7	..	1	..	9	5	3	5	102	27	129
Grand total of all classes from all causes	103	132	7	10	14	18	11	7	1	..	..	2	1	2	11	2	1	..	17	14	1	2	38	70	16	19	221	278	499
Mean length of railway open during the year (miles)	1,504		158		534		554		109		28		27¾		173		36		857		186		1,429*		444†		6,020¼		
Number of passengers carried	6,050,276		1,653,803		1,978,246		2,038,453		78,683		435,218		69,870		685,589		109,554		2,773,017		1,532,216		3,352,828		3,800,867		24,553,620		
Train mileage (goods and passengers)	7,683,019		553,535		617,721		1,429,483		182,195		88,277		33,926		219,971		40,576		1,920,633		315,714		3,969,217		973,117		17,982,403		
Passenger mileage	450,963,709		55,206,924		92,174,210		..		..		3,970,595		1,751,420		24,600,854		3,413,493		136,749,504		47,071,345		..		..		..		

* Includes the Nizam's, Wardha Valley, and the Berar State Railways.

† Includes the Dubhoe Branch.

TABLE No. II. A.—CLASSIFIED ABSTRACT of ACCIDENTS to SERVANTS of COMPANIES or of CONTRACTORS on all Railways open for Traffic in India during the Year 1874.

CLASSIFICATION.	UNDER THE CONTROL OF THE GOVERNMENT OF INDIA.																		UNDER THE CONTROL OF THE GOVERNMENT OF MADRAS.				UNDER THE CONTROL OF THE GOVERNMENT OF BOMBAY.				TOTAL.		
	East Indian.		Eastern Bengal.		Oude and Rohilkund.		Punjab and Delhi.		Scinde.		Calcutta and South-Eastern.		Nulhatee.		Rajpootana.		Holkar.		Madras.		South Indian.		Great Indian Peninsula.		Bombay, Baroda, & Central India.				
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed & Injured.
I.—FROM CAUSES BEYOND THEIR OWN CONTROL, *viz.*:—																													
(*a.*) Servants employed on trains in motion—																													
1. Collisions	1	7	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	7	..	..	3	19	22
2. Trains running into sidings or off their proper line, through points being wrong	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Trains or engines getting off rails	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	4	..	..	..	..	..	..	2	4	6
4. Accidents from defects in rolling stock	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5. Miscellaneous	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	1	..	5	6	11
Total	1	7	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	2	4	..	..	6	11	1	..	10	29	39
(*b.*) Servants employed in stations or on line—																													
1. Run over or crushed between buffers while coupling or uncoupling carriages and wagons	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	1	2
2. Run over while shunting trains	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Run over or struck while performing their duties	..	4	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	6	7
4. Miscellaneous	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	2	1	5	6
Total	..	6	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	1	1	..	2	3	12	15
II.—FROM INCAUTION OR MISCONDUCT:—																													
(*a.*) Servants employed on trains in motion—																													
1. Collisions	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	..	..	3	8	11
2. Attempting to get upon, or off, or falling from engines or carriages in motion	4	16	..	..	2	1	1	2	..	..	..	..	..	..	8	..	..	..	..	5	..	..	2	10	3	4	20	38	58
3. Miscellaneous	..	8	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	9	11
Total	4	30	1	..	3	1	1	2	..	..	..	..	..	..	8	..	..	..	..	5	..	..	5	13	3	4	25	55	80
(*b.*) Servants employed in stations or on lines—																													
1. Run over or crushed between buffers while coupling or uncoupling carriages or wagons	4	10	1	..	..	2	..	..	..	..	..	1	..	..	..	..	1	..	1	..	..	..	2	4	1	1	10	18	28
2. Run over or struck while shunting trains	2	4	2	2	..	2	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	5	4	4	3	13	17	30
3. Run over or struck while incautiously standing or walking upon the line	14	16	1	4	3	1	1	1	..	..	..	..	..	..	1	1	..	..	5	3	..	..	8	5	2	2	35	32	67
4. Miscellaneous	3	10	1	3	1	1	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3	..	1	10	18	28
Total	23	40	5	9	4	6	3	2	1	..	..	1	..	..	1	2	1	..	6	2	..	..	17	16	7	7	68	85	153
Grand Total	28	83	6	9	8	15	4	4	1	..	..	1	..	..	9	2	1	..	9	13	..	..	29	41	11	13	106	181	287
Train mileage	7,683,019		55,855		* 617,722		1,429,483		182,195		88,277		33,926		219,971		40,575		1,920,633		315,714		3,969,217		973,117		17,982,403		
Number of servants employed	35,074		2,900		2,582		8,365		1,200		242		142		1,809		296		4,743		1,066		14,207		4,319		77,595		

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TABLE No. III.

Showing the TOTAL NUMBER of ACCIDENTS to PERSONS of all kinds, and to TRAINS, &c., on all RAILWAYS open for TRAFFIC during the Year 1874.

Under the Control of the Government of		Mean Length of Railway open.	Total Number of Train Miles.	Train Miles per Mile open.	Passenger Mileage.*	Passenger Mileage per Mile open.	Total Number of Accidents to Trains, &c. of all kinds.	Total Number of Passengers carried.	Average Number of Passengers per Mile open.	Passengers.		Servants.				Trespassers, &c.		Total.		
										Killed.	Injured.	Beyond their own Control.		Within their own Control.		Killed.	Injured.	Killed.	Injured.	Killed and Injured.
												Killed.	Injured.	Killed.	Injured.					
India	1874	3,113¼	10,803,722	3,470	—	—	513	13,094,692	4,206	10	42	2	21	55	93	82	17	149	173	322
	1873	2,842¾	8,293,424	2,917	696,297,426	244,916	389	11,642,812	4,095	9	54	2	18	44	87	62	15	117	174	291
Madras	1874	1,043	2,236,347	2,144	—	—	116	4,305,233	4,128	1	3	3	6	6	7	8	—	18	16	34
	1873	1,030	2,323,938	2,256	172,298,967	167,281	83	4,210,602	4,088	—	1	—	—	9	3	6	2	15	6	21
Bombay	1874	†1,864	4,942,334	2,651	—	—	138	7,153,695	3,838	2	25	8	14	32	40	12	10	54	89	143
	1873	1,703	4,527,843	2,659	388,118,339	227,903	149	6,509,159	3,822	4	28	—	10	19	44	11	10	34	92	126
Total	1874	6,020¼	17,982,403	2,987	—	—	767	24,553,620	4,079	13	70	13	41	93	140	102	27	221	278	499
	1873	5,575¾	15,145,205	2,716	1,256,714,732	225,379	621	22,362,573	4,011	13	83	2	28	72	134	79	27	166	272	438

* Information not received for all Railways.

† Includes the Wardha Valley State Railway, the Nizam's State Railway, and the Berar Branch Railways, which are worked by the Great Indian Peninsula Railway. The Dubhoe Branch is also worked by the Bombay, Baroda, and Central India Railway.

CAPITAL.

33. The capital expenditure on railways during the year ending the 31st March last is estimated to have been 4,126,667*l.*, of which 2,694,124*l.* was expended on State lines, as distinguished from guaranteed lines. Of this amount 2,207,119*l.* was disbursed in England, and 1,919,548*l.* in India. The Government expenditure in England was 1,032,224*l.*, the Companies, 1,174,895*l.* In India, the Government expended 1,661,900*l.*, and the Companies, 257,648*l.* The Companies began the year with a balance of 3,371,988*l.*, and left off with one of 2,332,693*l.* They raised a sum of 766,748*l.* during the year, principally by means of debentures at 4 per cent. The amount of debenture loan has, however, been reduced from 6,945,340*l.* to 6,624,140*l.*, and 200,000*l.* has been renewed at 4, in place of 5 per cent.

34. The total amount raised by the railway companies up to the 31st March was 95,119,119*l.*, and is now divisible in the following manner, viz. :—

	£		£
Share capital at 5 per cent.	81,034,395	Debenture stock 4½ per cent.	1,925,000
Do. do. 4¾ „ -	1,286,596	Do. do. 4 „ -	3,204,878
Do. do. 4½ „ -	500,000	Capital not bearing interest	544,110
Debentures 5 „ -	1,592,790		
Do. do. 4½ „ -	1,707,450		£95,119,119
Do. do. 4¼ „ -	1,292,550		
Do. do. 4 „ -	2,031,350		

35. The following statement shows, approximately, how the capital has been expended :—

Statement showing Distribution of Capital expended.

Railway Company.	Works and Bridges.	Permanent Way and Stations.	Freight and Insurance.	Rolling Stock and Engines.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian - - - -	9,580,000	7,140,000	3,000,000	3,650,000	3,730,000	3,350,000
Great Indian Peninsula - -	9,474,000	7,490,000	—	2,872,000	1,619,000	1,477,000
Madras - - - -	3,488,000	3,836,000	—	1,103,000	883,000	451,000
Bombay, Baroda, and Central India -	3,248,000	2,157,000	—	1,104,000	777,000	512,000
Scinde, Punjab, and Delhi - -	2,082,000	3,424,000	—	1,960,000 Steamers and Barges, 377,000 Workshops, 45,504	1,029,000	790,000
South Indian - - -	656,000	627,000	—	126,000	334,000	233,000
Eastern Bengal - - -	2,228,000		—	316,000 Steamboats and Flotilla 73,000	336,000	115,000
Oude and Rohilkund - -	1,193,000	2,237,000	—	508,000	500,600	470,000

36. A large amount of capital still remains locked up in stores which have accumulated in India. These will by degrees be reduced, a considerable proportion being paid for out of revenue. The sums represented by them are as follows :—

	£		£
East Indian - -	909,561	South Indian - -	515,845
Great Indian Peninsula -	1,229,660	Eastern Bengal -	93,328
Madras - - -	343,869	Oude and Rohilkund -	209,890
Bombay, Baroda, and Central India - -	440,138		£4,181,598
Scinde, Punjab, and Delhi	439,307		

37. The amount that will annually be required to obtain the necessary supplies from this country for the maintenance of the lines, after they are opened, may be roughly estimated at 600,000*l.*

Statement No. 1.

Statement of Expenditure in England and India on Indian State Railways, appropriated to the various Undertakings as shown in Statements to 31st December 1874, received from India.

State Railway.	Expenditure appropriated.			Classification of Expenditure.										
	England.	India.	Total.	Preliminary Expenses.	Land.	Construction of Line.	Ballast and Permanent Way.	Stations and Buildings.	Electric Telegraph.	Plant.	Rolling Stock.	Establishment.	Contingencies.	Suspense Accounts.	Receipts on Capital Account.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Punjab, Northern	374,357	1,236,452	1,610,809	24,979	14,466	711,861	175,858	38,712	108	116,076	21,882	289,518	10,685	212,129	*5,465*
Indus Valley	231,874	1,129,215	1,361,089	60,139	7,379	285,977	152,763	69,371	—	39,331	8,886	240,155	16,359	483,079	*2,350*
Hubli and Karwar	2,502	52,728	55,230	3	—	—	—	—	—	—	—	53,586	1,641	—	—
Wardha Valley, Coal	2,088	163,752	165,840	8,498	61	37,304	77,506	10,154	—	1,526	241	16,624	647	13,410	*131*
Holkar	208,158	475,473	683,631	3,252	4,140	216,230	117,785	28,763	—	7,986	18,864	80,629	6,166	202,018	*2,202*
Neemuch	145,278	152,281	297,559	20,330	—	27,642	2,924	7,996	—	7,129	—	47,104	2,303	182,270	*139*
Agra District, Rajpootana	395,466	715,533	1,110,999	16,864	7,225	272,630	399,308	59,011	—	9,533	58,787	86,848	4,692	196,903	*802*
Delhi do. do.	175,290	564,259	739,549	8,824	19,987	143,307	321,320	60,214	—	11,985	49,072	72,358	3,923	49,674	*1,115*
Western do. do.	—	29,211	29,211	2,194	—	—	—	—	—	2,081	—	23,607	1,300	36	*7*
Nulhatee	30,000	—	30,000	—	—	*30,000	—	—	—	—	—	—	—	—	—
Calcutta and South-eastern	268,383	462,498	730,881	6,769	108,507	104,596	155,774	87,271	3,693	8,270	132,522	86,774	18,766	17,939	—
Northern Bengal	—	185,366	185,366	3,844	13,419	42,087	1,131	6,066	1,095	8,007	—	54,759	1,825	53,366	*233*
Scindia	—	13,902	13,902	1,218	—	—	—	—	—	1,057	—	11,201	394	37	—
Nagpur and Chuteesghur	—	8,773	8,773	1,117	—	—	—	—	—	470	—	6,973	231	—	*16*
Tirhoot	83,486	191,966	275,402	154	61	62,796	131,950	11,904	—	6,133	28,875	12,520	788	20,705	*454*
Rangoon and Irrawaddy Valley	—	21,207	21,207	3,572	239	4,575	479	292	—	827	—	1,099	39	10,093	*8*
Moradabad, Deobund, and Roorkee	—	2,852	2,852	52	—	—	—	—	—	34	—	2,616	150	—	—
Hathras and Muthra Section, Light Provincial Railway.	—	27,875	27,875	89	944	1,944	18,987	951	—	120	3	3,659	88	1,090	—
Native States.															
Nizam's	85,649	997,855	1,083,504	1,057	—	390,090	462,203	56,770	—	16,445	9,156	101,537	4,449	44,440	*2,643*
Khamgaum Branch	—	48,530	48,530	37	39	10,921	29,323	4,638	125	343	32	2,838	234	—	—
Oomraotee Branch	13,316	30,418	43,734	112	245	9,418	25,259	4,344	110	302	15	3,806	123	—	—
Mysore	—	11,624	11,624	550	—	—	—	—	—	831	—	9,994	249	—	—
Total	2,015,797	6,521,770	8,537,567	163,649	176,712	2,351,378	2,072,570	446,457	5,131	238,486	328,335	1,208,205	75,052	1,487,189	*15,597*

* This amount was paid to the Oude and Rohilkund Railway Company for purchase of the Line.

Note.—The total expenditure in England on State Railways to 31st December 1874 amounted to 2,787,425*l*. The above figures represent only that portion of such expenditure as had been appropriated in India to the several undertakings to the date of the last advices received.

India Office, 14th June 1875.

E. R. Cave-Browne,
Acting Accountant.

STATEMENT No. 2.

Showing the AMOUNT of CAPITAL estimated to be required for each Undertaking as now sanctioned, the Amount authorised to be raised, the Amount raised, and the Amount withdrawn, to 31st March 1875.

Railway.	Estimated Cost of Lines.	Amount authorised to be raised on 31st March 1875.						Amount raised in England to 31st March 1875.						Amount raised in India to Date of last Advices.		Total Amount raised to 31st March 1875.	Total Amount withdrawn to 31st March 1875 (partly estimated).
		Share Capital.	Debentures.		Debenture Stock.	Capital not bearing Interest.	Total.	Share Capital.	Debentures.		Debenture Stock.		Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.		
			Convertible into Shares.	Inconvertible.					Convertible into Shares.	Inconvertible.	Stock represented.	Cash received.					
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
East Indian—Main Line -	27,750,000	22,783,860	216,140	2,940,000	1,500,000	160,165	27,600,165	22,406,530	216,140	2,940,000	*1,500,000*	1,500,000	158,827	326,325	1,338	27,549,160	27,167,508
„ Jubbulpore Line -	3,250,000	3,200,000	—	—	—	37,591	3,237,591	3,151,480	—	—	—	—	37,591	7,665	—	3,196,736	3,454,336
Great Indian Peninsula - -	24,000,000	20,000,000	—	1,304,250	3,065,300	229,602	24,599,152	19,064,125	—	1,304,250	*2,701,450*	2,475,559	228,860	405,047	742	23,478,583	23,084,484
Madras - - -	10,500,000	10,200,700	101,700	500,000	—	9,898	10,812,298	9,555,066	101,700	500,000	—	—	9,898	—	—	10,166,664	10,124,989
Bombay, Baroda, and Central India - - - - -	8,000,000	7,411,700	183,900	200,000	—	35,387	7,830,987	7,389,518	183,900	200,000	—	—	35,387	21,672	—	7,830,477	7,833,223
Scinde, Punjab, and Delhi -	11,000,000	11,418,900	—	—	—	4,403	11,423,303	10,988,984	—	—	—	—	4,386	86,253	67	11,079,640	10,186,665
Eastern Bengal - - -	3,200,000	2,255,520	—	462,350	411,308	2,288	3,131,466	2,238,996	—	52,650	*411,308*	374,730	2,288	16,486	—	2,685,150	3,084,282
Oude and Rohilkund - -	6,000,000	3,989,800	10,200	1,115,300	384,700	3,352	5,503,352	3,571,873	10,200	1,115,300	*384,700*	354,589	3,352	417,890	—	5,473,204	5,175,142
South Indian - - -	4,000,000	3,215,731	—	—	425,000	61,424	3,702,155	3,171,860	—	—	*425,000*	425,000	61,369	1,221	55	3,659,505	2,675,797
Total - -	97,700,000	84,476,211	511,940	6,521,900	5,786,308	544,110	97,840,469	81,538,432	511,940	6,112,200	*5,422,458*	5,129,878	541,908	1,282,559	2,202	95,119,119	92,786,426

India Office, 8th April 1875.

T. W. KEITH,
Accountant.

Statement No. 3.

Showing the Amount received from and withdrawn by each Company during the Year ended 31st March 1875.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1874.	Sums advanced to the Companies on the 31st March 1874.	Amount received						Amount withdrawn					Total received during the Year ended 31st March 1875.	Total withdrawn during the Year ended 31st March 1875.
			In England, between 1st April 1874 and 31st March 1875.				In India, between 1st April 1874 and the Date to which Accounts have been received.		In England, between 1st April 1874 and 31st March 1875.		In India.				
			Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.	On account of Stores, Establishment Charges, &c.	For Discharge of Debentures.	Date to which Accounts have been received.	Amount.	Estimated Withdrawals between Dates specified and 31st March 1875.		
	£	£	£	£	£	£	£	£	£	£		£	£	£	£
East Indian, Main Line.	469,179	—	700	—	—	—	—	—	85,947	10,000	31st January 1875	*7,720**	—	700	88,227
East Indian, Jubbulpore Line.	—	304,520	48,130	—	—	7,557	—	—	—	86,000	„	*77,233**	—	55,687	8,767
Great Indian Peninsula.	528,702	—	—	—	—	—	—	—	259,758	—	„	*125,155**	—	—	134,603
Madras - -	135,209	—	1,596	—	—	—	—	—	96,315	—	31st December 1874	*1,185**	—	1,596	95,130
Bombay, Baroda, and Central India.	—	9,152	1,762	200,000	—	555	—	—	94,837	111,800	31st January 1875	*10,726**	—	202,317	195,911
Scinde, Punjab, and Delhi.	945,651	—	—	—	—	217	—	—	50,196	—	„	2,697	—	217	52,893
Eastern Bengal -	—	159,308	—	5,000	—	—	—	—	17,430	164,700	„	62,694	—	5,000	244,824
Oude and Rohilkund	139,296	—	—	500,000	—	1,231	—	—	100,167	—	31st December 1874	192,298	50,000	501,231	342,465
South Indian — Great Southern of India.	1,006,022	—	—	—	—	—	—	—	101,732	1,000	31st July 1874† -	34,154	—	—	643,223
South Indian — Carnatic -	620,909	—	—	—	—	—	—	—	74,990	—	„ †	16,746	—	—	
South Indian — South Indian	—	—	—	—	—	—	—	—	293,523	—	31st December 1874	71,078	50,000	—	
Total - -	3,844,968	472,980	52,188	705,000	—	9,560	—	—	1,174,895	373,500	—	157,648	100,000	766,748	1,806,043

* Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c. exceed by these sums the amount withdrawn in India on Capital Account during the year.

† The amalgamation of the Great Southern of India and Carnatic Railway Companies under the title of South Indian Railway Company bears date 30th June 1874, but it did not come practically into operation until the 1st August.

India Office, 8th April 1875.

T. W. Keith,
Accountant.

STATE of DEBENTURE LOANS on the 31st March 1875.

Railway.	Amount.			Rate of Interest	Date at which Loan expires.
	Convertible.	Inconvertible.	Total.		
	£	£			
East Indian	—	196,150		4½	10th August 1875.
"	—	1,024,000		4½	" "
"	216,140	—		5	9th August 1876.
"	—	96,400		4½	10th August 1877.
"	—	183,450		4½	" "
"	—	1,000,000		4¼	22d August 1877.
"	—	440,000		4	19th March 1878.
	216,140	2,940,000			
			3,156,140		
Great Indian Peninsula	—	1,035,450		5	31st Dec. 1876.
" "	—	268,800		4	30th June 1878.
	—	1,304,250			
			1,304,250		
Madras	—	500,000		4½	1st January 1876.
"	101,700	—		5	1st January 1877.
	101,700	500,000			
			601,700		
Bombay, Baroda, and Central India	183,900	—		5	1st July 1876.
" " "	—	200,000		4	1st January 1882.
	183,900	200,000			
			383,900		
Eastern Bengal	—	45,400		5	1st November 1876.
"	—	7,250		4	1st November 1884.
	—	52,650			
			52,650		
Oude and Rohilkund	10,000	—		5	15th April 1875.
" "	100	—		5	28th July 1876.
" "	100	—		5	18th February 1879.
" "	—	615,300		4	4th June 1880.
" "	—	500,000		4	1st August 1881.
	10,200	1,115,300	1,125,500		
			6,624,140		

India Office,
8th April 1875.

T. W. KEITH,
Accountant.

STATEMENT of WITHDRAWALS out of CAPITAL for EXPENDITURE; showing the Amount withdrawn in England and in India by all the Guaranteed Indian Railway Companies during each Financial Year from the commencement to 31st March 1875.

Year.	England.	India.	Total.
	£	£	£
1849–50	69,211	6,682	75,893
1850–51	61,164	38,099	99,263
1851–52	154,212	197,111	351,323
1852–53	174,920	252,640	427,560
1853–54	252,484	418,165	670,649
1854–55	960,878	769,278	1,730,156
1855–56	1,935,074	1,431,337	3,366,411
1856–57	1,752,813	1,762,287	3,515,100
1857–58	1,328,243	2,094,825	3,423,068
1858–59	1,941,033	3,551,075	5,492,108
1859–60	2,508,668	4,662,796	7,171,464
1860–61	2,388,315	5,190,400	7,578,715
1861–62	1,597,430	5,004,782	6,602,212
1862–63	1,852,393	4,010,951	5,863,344
1863–64	1,415,146	3,340,507	4,755,653
1864–65	1,396,821	2,725,419	4,122,240
1865–66	2,222,679	3,414,187	5,636,866
1866–67	3,958,357	3,339,346	7,297,703
1867–68	3,924,490	3,195,591	7,120,081
1868–69	1,969,814	2,512,084	4,481,898
1869–70	2,298,680	2,444,171	4,742,851
1870–71	1,899,054	1,877,216	3,776,270
1871–72	886,996	1,609,732	2,496,728
1872–73	822,995	*345,750*†	477,245
1873–74	1,028,032	*334,979*†	693,053
1874–75	1,174,895	257,648*	1,432,543*
	39,974,797	53,425,600	93,400,397
Deduct amount withdrawn by the Calcutta and South-eastern Railway Company, this Railway having subsequently become the property of the State	267,362	346,609	613,971
	39,707,435	53,078,991	92,786,426

* These amounts are partly estimated.

† Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amount withdrawn in India on Capital Account.

Note.—The total expenditure in India in each year as shown in the above Statement will not be found to coincide with that shown in the Indian Finance and Revenue Accounts, owing to the fact that the transfers of expenditure to Revenue Account can only be made in the books in this country on receipt of advices from India, and are consequently brought to account some months later than in the Indian books.

India Office,
8th April 1875.

T. W. KEITH,
Accountant.

REVENUE.

38. The revenue derived from the railways during the year 1874 was 770,856*l.* in excess of the previous year. The gross receipts amounted to 7,760,760*l.*, being 1,021,845*l.* in excess of the previous year. The expenses were 3,804,689*l.* as compared with 3,553,703*l.* The net revenue was accordingly 3,956,071*l.*

39. The amount paid for guaranteed interest during the year 1874–75 was 4,694,355*l.*, towards which the guaranteed lines contributed 3,562,000*l.*, leaving 1,132,355*l.* as a charge upon the revenues of the year. A sum of 752,705*l.* was realised, in excess of the guaranteed interest advanced to them, by the East Indian, the Eastern Bengal, and the Bombay and Baroda railways. Half this amount was, under the terms of the contract, paid back to the companies for distribution amongst the shareholders. The East Indian received 365,510*l.* 10*s.*, the Eastern Bengal, 8,480*l.* 10*s.*, and the Bombay, Baroda, and Central India, 2,361*l.* 10*s.* from this source.

40. The following statement shows the amount of surplus profits earned by guaranteed railways from 1870 to 1874 inclusive :—

Railway Company.	Half year to 30th June 1870.	Half year to 30th June 1871.	Half year to 30th June 1872.	Half year to 30th June 1873.	Half year to 31st Dec. 1873.	Half year to 30th June 1874.	Half year to 31st Dec. 1874.	Total.
	£	£	£	£	£	£	£	£
East Indian, Main Line - -	130,095	109,255	150,695	167,753	104,688	641,832	77,951	1,382,269
„ Jubbulpore Line -	—	—	—	—	—	11,238	—	11,238
Bombay, Baroda, and Central India	—	—	5,864	—	—	4,723	—	10,587
Eastern Bengal - - -	—	—	—	—	8,411	7,810	9,151	25,372
Total - -	130,095	109,255	156,559	167,753	113,099	665,603	87,102	1,429,466

24th June 1875. E. R. CAVE-BROWNE.

41. The annual payments on account of guaranteed interest, and the amount paid in reduction of the same, during the last five official (not calendar) years have been as follows, viz. :—

Financial Year.	Guaranteed Interest.	Net Traffic Receipts less half surplus profits.	Net Charge.
	£	£	£
1869–70	4,176,008	2,628,944	1,547,064
1870–71	4,391,592	2,556,781	1,834,811
1871–72	4,592,166	2,868,948	1,723,218
1872–73	4,658,401	2,547,900	2,110,501
1873–74	4,667,906	3,230,554	1,437,352
1874–75 partly estimated.	4,694,355	3,562,000	1,132,355

42. The improvement which took place in the revenue of the railways during the past year is due principally to the large traffic in grain for the famine-stricken districts of Bengal. The Great Indian Peninsula and the Bombay and Baroda, which did not directly participate in this traffic, also show an advance, but the trade of the country still continues depressed, and the business of the railways is of course injuriously affected thereby.

43. Both exports and imports diminished in the year 1873–74. The cotton trade, especially during the last few years, has fallen off considerably, and this tells very much against the Bombay lines. The cotton exported to England amounted in—

1863–4 to 4,522,526 cwts., of the value of 38,215,145*l*.
1868–9 to 4,284,334 cwts., „ „ 18,342,887*l*.
1873–4 to 3,280,877 cwts., „ „ 9,625,626*l*.

The value of all imports and exports in the same years from Bombay were as follows :—

——	Imports.	Exports.	Total.
	£	£	£
1863–4 - -	30,407,409	38,568,724	68,976,133
1868–9 - -	24,128,314	23,770,307	47,898,621
1873–4 - -	11,663,266	20,871,314	32,534,580

Taking the whole of India, the value of imports and exports were—

——	Imports.	Exports.	Total.
	£	£	£
1863–4 - -	50,108,171	66,895,884	117,004,055
1868–9 - -	51,146,095	54,457,744	105,603,839
1873–4 - -	38,386,142	56,874,849	95,260,991

STATEMENT showing the REVENUE from the INDIAN RAILWAYS in 1873 and 1874, as given in the Accounts passed by Government.

Railway.		Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
		Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
		£	£	£	£	£	£	£		£
East Indian, Main Line	1874	742,416	2,350,949	94,281	3,187,646	203,421	922,304	1,125,725	35	2,061,921
" "	*1873*	*749,043*	*1,735,555*	*94,516*	*2,579,114*	*200,099*	*769,335*	*969,425*	*38*	*1,609,689*
" Jubbulpore Line	1874	68,696	131,146	35,195	235,037	16,889	83,192	100,081	43	134,956
" "	*1873*	*66,945*	*89,779*	*21,312*	*178,036*	*21,784*	*79,602*	*101,386*	*57*	*76,650*
Great Indian Peninsula	1874	438,544	1,369,990	40,013	1,848,547	193,996	899,824	1,093,820	59	754,728
" "	*1873*	*498,277*	*1,203,413*	*26,330*	*1,728,020*	*195,931*	*911,506*	*1,107,437*	*64*	*620,583*
Madras	1874	226,369	295,011	20,049	541,429	112,126	237,998	350,124	64	191,305
" "	*1873*	*234,249*	*380,525*	*19,200*	*630,974*	*134,355*	*227,921*	*359,276*	*57*	*271,698*
Bombay, Baroda, and Central India	1874	203,382	304,580	29,059	537,021	49,340	230,538	279,878	52	257,143
" "	*1873*	*208,899*	*288,534*	*14,965*	*512,398*	*84,984*	*218,519*	*303,503*	*59*	*208,895*
Scinde, Punjab, and Delhi	1874	199,274	362,194	120,782	682,250	70,792	345,015	415,807	60	266,443
" " "	*1873*	*198,790*	*270,060*	*18,453*	*487,303*	*67,102*	*267,528*	*334,630*	*69*	*152,673*
" Indus Steam Flotilla	1874									
" "	*1873*	*5,592*	*65,431*	*92*	*71,115*	*21,484*	*45,079*	*66,563*	*94*	*4,552*
*Great Southern of India for 1st half of	1874	21,560	17,770	1,156	40,486	5,302	20,602	25,904	64	14,582
*Carnatic for 1st half of	1874	1,858	213	28	2,099	244	647	891	43	1,207
South Indian (being an amalgamation of the two marked*) for 2nd half of	1874	26,011	19,073	1,227	46,311	5,595	21,664	27,259	59	19,051
Great Southern and Carnatic for year	1873	53,195	49,596	3,255	106,047	11,104	41,931	53,038	58	53,011
Eastern Bengal	1874	99,033	211,519	55,379	365,931	39,303	158,907	198,210	54	167,721†
" "	*1873*	*107,393*	*154,783*	*52,741*	*314,867*	*28,711*	*132,248*	*160,959*	*51*	*153,908*
Oude and Rohilkund	1874	109,283	87,933	3,186	200,402	30,408	98,675	129,083	64	71,320
" "	*1873*	*63,249*	*47,192*	*1,949*	*112,390*	*18,826*	*63,120*	*81,946*	*73*	*30,444*
Totals for Guaranteed Railways	1874	2,136,426	5,150,378	400,355	7,687,159	727,416	3,019,366	3,746,782	48	3,940,377
	1873	*2,162,632*	*4,284,818*	*252,813*	*6,720,263*	*781,371*	*2,756,789*	*3,538,160*	*52*	*3,182,103*
STATE.										
Calcutta and South-eastern	1874	5,309	2,481	1,330	9,120	1,645	5,500	7,145	78	1,975
" "	*1873*	*5,416*	*3,672*	*1,120*	*10,207*	*3,271*	*7,198*	*10,469*	*103*	[Loss *261*
Nulhuttee	1874	4,830	2,836	137	7,803	1,135	4,110	5,245	67	2,558
" "	*1873*	*5,684*	*2,607*	*154*	*8,445*	*1,099*	*3,973*	*5,072*	*60*	*3,373*
Rajpootana (Agra District)	1874	11,269	19,231	837	31,337	8,909	16,220	25,129	80	6,208
" (Delhi District)	1874	9,674	11,776	3,891	25,341	4,866	15,522	20,388	80	4,953
Totals for State Railways	1874	31,082	36,324	6,195	73,601	16,555	41,352	57,907		15,694
	1873	*11,100*	*6,279*	*1,273*	*18,652*	*4,369*	*11,471*	*15,840*		*3,112*
Grand Total for all Railways	1874	2,167,508	5,186,702	406,550	7,760,760	743,971	3,060,718	3,804,689	49	3,956,071
	1873	*2,193,732*	*4,291,096*	*254,067*	*6,738,915*	*785,740*	*2,767,960*	*3,553,700*	*53*	*3,185,215*

† Including steam-boat service.

GUARANTEED INTEREST.

44. The sums *advanced* by Government for guaranteed interest to the different companies during the year amounted, as will be seen by the statement below, to 4,641,705*l.*, compared with 4,613,511*l.* of the previous year, and the whole amount advanced since the commencement of operations was increased from 47,632,471*l.* to 52,274,176*l.* These sums are the gross amounts advanced by Government, without reference to the earnings which go in reduction of them. When they are taken into consideration, the net amount advanced, as shown in the table on page 30, is 24,269,199*l.*, which is again subject to reduction by future half surplus profits.

45. The following figures give the proportionate repayment by each company, out of their earnings, of the sums advanced for guaranteed interest. The guaranteed interest, it may be observed, begins as soon as the money is paid into the Government Treasury, and in many cases for years before the railways are opened and in a condition to return anything.

	Proportion per cent. of guaranteed interest returned.
East Indian, Main line	77·87
East Indian, Jubbulpore	21·13
Great Indian Peninsula	51·50
Madras	44·99
Bombay, Baroda, and Central India	40·81
Scinde, Punjab, and Delhi	14·43
Eastern Bengal	65·17

GUARANTEED INTEREST.—INDIAN RAILWAYS.

STATEMENT of the Total Amount of INTEREST advanced to each of the under-mentioned Railway Companies to the 31st December 1874.

Railway Company.	Interest advanced to 31st December 1873.	Interest advanced during 1874.			Total.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian, Main Line	17,165,655 4 9	1,330,032 12 10	11,449 3 5	1,341,481 16 3	18,507,137 1 0
„ Jubbulpore Line	1,561,076 9 0	157,256 7 7	383 5 0	157,639 12 7	1,718,716 1 7
Great Indian Peninsula	11,292,411 1 4	1,128,612 19 0	15,428 3 0	1,144,041 2 0	12,436,452 3 4
Madras	5,879,011 16 10	500,228 13 1	—	500,228 13 1	6,379,240 9 11
Bombay, Baroda, and Central India	3,922,396 15 9	384,755 6 2	266 9 1	385,021 15 3	4,307,418 11 0
Scinde, Punjab, & Delhi	4,715,922 8 0	550,528 9 9	2,740 6 10	553,268 16 7	5,269,191 4 7
Eastern Bengal	1,337,077 19 6	138,730 6 7	1,177 12 0	139,907 18 7	1,476,985 18 1
Oude and Rohilkund	753,611 14 8	237,818 14 2	5,184 5 10	243,003 0 0	996,614 14 8
*South Indian — Great Southern of India	885,639 10 2	138,660 8 0	—	177,112 9 8	1,182,419 13 8
*South Indian — Carnatic	119,667 13 10	38,452 1 8			
Total	£47,632,470 13 10	4,605,075 18 10	36,629 5 2	4,641,705 4 0	52,274,175 17 10

* The amalgamation of the Great Southern of India and Carnatic Railway Companies under the title of the South Indian Railway Company bears date 30th June 1874, but it did not come practically into operation until the 1st August.

India Office, 8th April 1875.

T. W. KEITH,
Accountant.

A STATEMENT showing approximately the AMOUNTS advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to the 30th June 1874, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total Amount advanced to 31st December 1874.*	Aggregate of Net Revenue Balances for the several half-years to 30th June 1874, inclusive.	Net Amount advanced.
	£	£	£
East Indian, Main Line	18,507,137	14,413,517	4,093,620
„ Jubbulpore Line	1,718,716	363,238	1,355,478
Great Indian Peninsula	12,436,452	6,404,846	6,031,606
Madras	6,379,240	2,870,264	3,508,976
Bombay, Baroda, and Central India	4,307,419	1,758,112	2,549,307
Scinde, Punjab, and Delhi	5,269,191	760,698	4,508,493
Eastern Bengal	1,476,986	962,638	514,348
Oude and Rohilkund	996,615	110,878	885,737
†South Indian { Great Southern of India / Carnatic }	1,182,420	360,786	821,634
Total	£ 52,274,176	28,004,977	24,269,199

* The Interest for the half-year to 30th June 1874 not being paid until the succeeding half-year.

† The Great Southern of India and Carnatic Railway Companies were amalgamated on the 30th June 1874, under the title of South Indian Railway Company.

India Office, 8th April 1875. T. W. KEITH, Accountant.

46. The following statement, which shows the results of calculations made by desire of your Lordship, is of sufficient general interest to be introduced here :—

1. The total withdrawals by guaranteed railway companies from the commencement of operations to the 30th June 1874 on capital account were - - - £91,750,803

2. The amount of debt that it would probably have been necessary to incur in order to meet such expenditure, had the companies not existed, and the interest that would have been paid thereon.

	Principal.	Interest.
	£	£
India bonds	10,783,700	8,510,192
India debentures	9,699,500	7,014,500
„ „	3,227,500	2,097,875
India 5 per cent. stock	42,289,100	23,050,033
India 4 per cent. stock	25,520,100	4,890,428
	91,519,900	45,563,028

3. The total amount of capital that has been raised by the several companies, and the interest paid thereon by the Indian Government.

	Principal.	Interest.
	£	£
East Indian, Main line	27,558,640	17,833,191
„ „ Jubbulpore line	3,227,049	1,643,715
Madras	10,166,166	6,129,111
Great Indian Peninsula	23,478,583	11,864,432
Scinde, Punjab, and Delhi	11,079,423	4,992,823
Bombay, Baroda, and Central India	7,740,594	4,114,804
Eastern Bengal	2,844,850	1,407,060
Great Southern of India	2,868,208	954,970
Oude and Rohilkund	4,971,973	873,273
Carnatic	791,242	138,894
	94,726,728	49,952,273

India Office, 11th December 1874. T. W. KEITH, Accountant.

47. The " withdrawals " in the first paragraph are the sums paid to the railway companies for capital expenditure out of the money previously paid by them into the Government Treasury. The difference between the 91,750,803*l.* in the first paragraph and 94,726,728*l.* in the third is the balance to the credit of the companies. The difference in the two amounts of interest (45,563,028*l.* and 49,952,273*l.*) may be accounted for, to a considerable extent, by the large balances which the companies have been expected to keep. If the interest were to be calculated upon the amounts withdrawn, and from the dates of withdrawal, the sum for interest in the latter statement would be much less.

TRAFFIC AND WORKING.

48. The statements which follow, and which are compiled from returns prepared in India for this report, furnish full particulars of the traffic and working of each separate undertaking, and enable comparisons to be drawn of the results. The following are the general conclusions:— Traffic.

49. The total number of passengers of all classes carried in 1874 was 24,280,459, compared with 23,557,605 of the year 1873. Of the former number, 23,556,218, or 97·01 per cent., consisted of the lowest classes; 543,800, or 2·21 per cent., of the second; and 180,440, or ·78 per cent., of the first class. The receipts from passengers (including 105,823*l.* for troops, and 199,958*l.* for excess luggage, carriages, horses, &c., and excluding 7,148*l.* for mail service) were 2,183,015*l.*, of which 106,198*l.*, or 4·81 per cent., was received from the first, 102,990*l.*, or 4·70 per cent., from the second, and 1,650,110*l.*, or 75·58 per cent., from the lowest classes. The total receipts from passengers, compared with last year, were 3,440*l.* less. Passengers.

50. On some of the lines the decrease was considerable, and on others there was not much difference. On the Great Indian Peninsula, for instance, the numbers fell off by 193,000, and the receipts diminished 59,700*l.* On the East Indian, the Scinde, Punjab, and Delhi, and on the Madras, the passenger traffic was nearly stagnant. The numbers only increased in the cases of those lines where the rates had been reduced. The Bombay, Baroda, and Central India Railway, on which a reduction of third-class fares had been made, carried 589,000 more than in the preceding year, and on the South Indian where the 2 pie rate has also been tried, there has been a gradual increase since 1872. A reduction in rates is naturally accompanied at first by a falling off in receipts, but if the reduction has been judiciously made and the management is good, a recovery may be expected in due time. Fares.

51. The South Indian Railway furnishes an example in point. When the third-class rate was reduced to 2 pie or ¼*d.* a mile, the number of passengers increased from 707,918 in the year ending 30th June 1872 to 1,197,539 in 1873, and to 1,257,400 in 1874. The mileage increased, in the same period, from 27,902,695 to 43,999,394. The receipts in 1872 were Rs. 357,136, in 1873 Rs. 354,358, and in 1874 Rs. 367,738. Thus, while there was an increase in numbers of 71 per cent., there was an increase in receipts of only 3 per cent., and in the year next to that in which the reduction was made there was a decrease of 0·8 per cent. This result, while it is apt to produce feelings of disappointment, by no means indicates failure. It proves that the poorer classes in India will use the railway when brought within their means, and that they will travel considerable distances when proper facilities and encouragement are offered. Evidence of this is given by the average distance now travelled by third-class passengers. It comes to about 30 miles per passenger, and seems to point out that the rates are still too high to offer attractions for short journeys. Where the distance can be traversed on foot and where country carts can be used, the railway is avoided so long as time is not an object. There can be no doubt, however, that to give low fares a proper chance the strictest economy must be observed. The increased expense consequent on the conveyance of the larger number above mentioned probably more than covered the small increase in receipts. As one important step in the direction of economy, a watchful eye should be kept on the train mileage and the train loads. If more trains are run than are required, and more vehicles are run in each train than are necessary for the work to be done, great wasteage necessarily follows. By a statement made of the passenger traffic on the Great Indian Peninsula and the Bombay and Baroda railways, it would appear that the average number of seats provided and used in each train was as follows:—

	Seats provided.		Seats used.	
	G. I. P.	B. B. and C. I.	G. I. P.	B. B. and C. I.
1st class -	38·16	32	3·25	2·78
2nd class -	80·80	80·36	15·73	11·03
3rd class -	292·5	596·7	138·5	253·8

52. It is difficult, of course, on lines where the up and down traffic is unequal, to avoid a certain amount of unprofitable train load, but this is seldom the case with regard to passengers, and the greater the difficulty the more necessity for careful management. The above figures show a disproportionate amount of unpaying dead weight.

Goods. 53. The general merchandise carried amounted to 4,663,016 tons, exclusive of 33,608 conveyed by the Indus Flotilla, compared with 3,266,062 of the previous year. The minerals were 687,450 tons, compared with 671,004 of 1873. Thirty-nine per cent. of the whole quantity, viz., 2,137,981, was conveyed on the main line of the East Indian Railway. While there was a falling off in the general traffic of the country, there was an increase on the East Indian of 711,068, and on the Punjab and Delhi of 130,564 tons, due, of course, to the large demands for grain in the districts where scarcity prevailed.

54. The receipts from goods increased by 981,603*l.* from 4,292,005*l.* in 1873 to 5,273,608*l.* in 1874. The East Indian Railway alone earned 656,761*l.* more than the previous year, and the Punjab and Delhi 291,407*l.* The Great Indian Peninsula shows an increase of 166,578*l.*, but the Madras, on the other hand, a decrease of 86,378*l.*

55. The number of miles travelled by trains during the year was 18,475,322, compared with 15,650,597 of the previous year, and the ton mileage (signifying the number of tons moved one mile) was 1,102,956,185 against 802,704,329. The same observations as to the necessity of keeping up the train loads applies with even greater force to the goods traffic.

Expenses. 56. The expenses of maintenance and working amounted to 3,682,601*l.*, exclusive of 73,646*l.* for the Flotilla, being at the rate of 3·98*s.* per train mile, compared with 4·46*s.* of the year 1873. The receipts per train mile came to 8·39*s.* A comparison of the charges in the different departments of the various railways, as given in Table IV., will show how the expenses vary, and where a more economical management is needed. But the amount of work done and the cost of doing it can best be ascertained through the passenger and ton mileage, *i.e.*, the number of passengers and the amount of goods respectively carried one mile and the cost thereof. This will be found given for six of the more important railways in the tables (pages 34 and 35), which have been prepared by Mr. A. M. Rendel on the same basis as those which were compiled by him for previous reports. The test is not an infallible one, but the nearest to absolute accuracy, and when it is obtained it furnishes a guide for economical management, and for the application of fixed principles to the regulation of charges.

57. A marked difference will be observed in the expenses. The work done, for instance, by the Great Indian Peninsula Railway last year was less than half that of the East Indian, and yet the cost was nearly the same. In other words, the expenses of the Great Indian Peninsula were, proportionately, twice as much as the East Indian. The position of the lines is, no doubt, different as regards the supply of fuel, the cost of the East Indian being 2·26*d.*, and that of the Great Indian Peninsula 10*d.* per train mile, but this will not account for the contrast in the expenditure of the two. Nor is it explained by the difference in the proportion of "up" and "down" traffic, although this likewise is in favour of the East Indian, which has 47 of the one and 53 of the other, against 57 and 43 of the Great Indian. The true explanation will be found in the two items before mentioned, viz., the train loads and the train miles. The form in which Mr. Rendel has reduced the statistics of the year enables the case to be clearly exemplified. It will thus be seen that while on the East Indian Railway the average number of passengers in each train was 223, and on the Bombay, Baroda, and Central India 285, on the Great Indian Peninsula it was 173, and on the Scinde only 125; that the average goods' train loads of the Eastern Bengal, East Indian, and the Bombay, Baroda, and Central India were 168, 120, and 92 tons respectively, of the Great Indian Peninsula and Madras 82 and 48½ tons; that the average cost of running a train one mile was, on the East Indian 2*s.* 9⅝*d.*, on the Great Indian Peninsula 5*s.* 2½*d.*, on the Bombay, Baroda, and Central India 5*s.* 3*d.*, and on the Scinde 7*s.*; that the average cost of carrying a passenger and a ton of merchandise one mile respectively on the East Indian was ·151*d.* and ·279*d.*, on the Great Indian Peninsula ·36*d.* and ·762*d.* (more than twice as much), on the Bombay, Baroda, and Central India ·221*d.* and ·685*d.*

58. On the Madras line, which is in the same position as regards coal as the Great Indian Peninsula, the cost of fuel per train mile was only 3·08*d.*, and that

of producing locomotive power was 14·79*d.* per train mile, while on the latter it was 23·53*d.* This may in some measure be explained by the more plentiful supply of wood for fuel on the Madras line; but in another department a comparison brings the same result. The repairs and renewals of rolling stock on the Madras amounted to 2·90*d.*, and on the Great Indian to 7·40*d.*, per train mile. Special or accidental circumstances may possibly account for this variance, but it is sufficient to call for careful investigation and renewed exertions.

59. The relations between the people and the railways, it may be observed, are very different in India to what they are in this country. In India the tax-payer takes the risk and pays the dividend. In return for this he has a right to expect the best and most economical management and all reasonable and proper accommodation. In fulfilling these obligations the companies would be serving their own interests. The returns show that the success of the undertakings depends upon the receipts taken from the mass of the people and for conveying the staple commodities of the country. It is very important to develop this description of traffic, and to suit the charges to the wants and capabilities of the country. It will be seen by Mr. Rendel's table that the most prosperous line, viz., the East Indian, is that which has the lowest average goods rate. Through the inducement of low fares, accompanied by regularity, safety, and comfort, trains may be run nearly, instead of half, full, and a paying traffic may be brought to a line. The revenue also may be further improved by care, economy, and energetic management; for reduction in expenditure helps as much as receipts to increase profits.

PARTICULARS relating to the TRAFFIC of the GUARANTEED RAILWAYS named below for the year 1874, based on their Revenue Accounts, and prepared on the Basis of those printed as Appendices to the yearly Reports for 1872 and 1873, by Mr. A. M. RENDEL, Consulting Engineer for State Railways to the Secretary of State in Council, and to the East Indian Railway Company.

60. "The sums given as working expenses are arrived at by deducting from the gross expenses given in the revenue accounts all receipts from miscellaneous sources, from private telegraph messages, and from demurrage. The miscellaneous receipts in many cases would, if properly treated in the revenue accounts, appear as credits to working expenses, and not as receipts to the credit of revenue, and the method adopted in the particulars here given is very nearly strictly correct.

"The principle however is somewhat strained for the year 1874, in consequence of the East Indian Railway main line having been compelled by the famine traffic to borrow rolling stock very largely from the Jubbulpore line, the Punjab and Delhi, and the Bombay and Baroda, for which it paid what are really demurrage and not hiring rates. The East Indian main line expenses have therefore been somewhat largely abnormally increased, whilst those of the other lines named have been correspondingly decreased.

"Telegraph and demurrage receipts do not amount to much, and they are deducted from working expenses, in order to leave on the revenue side receipts for the transport of goods and passengers by rail only, and at the same time to bring into account all other sources of revenue.

"Steam ferry profits are deducted from the East Indian Railway expenses. They form a very small fraction of the whole receipts of the line.

"In the case of the Scinde and Eastern Bengal lines, steamboat receipts and expenses, which form a considerable part of the whole of each, are left out of the account, but in the case of the Scinde, a portion of the general expenses, proportional to the steamboat receipts, have been deducted as belonging to the steamboat expenses.

"Neither payments to, or receipts from, special or reserve funds have been taken into account, the actual expenditure only of the year having been considered in all cases.

"In the case of the Scinde, Punjab, and Delhi, the returns, as sent home, of the average number of carriages and wagons per train (30 of each) are probably erroneous in regard to carriages. The Eastern Bengal returns, as sent home, are clearly wrong in regard to the division of mixed mileage between passengers and goods. They are here divided on the principle that 22 passenger vehicles are equal to·33 goods, taking the numbers of each as given in the returns, viz., 4 passenger and 25 goods vehicles per train.

"In determining the passenger mileage, the traffic in luggage, parcels, horses, &c., is converted into passenger mileage at the average rate obtained for carrying

passengers only. It must be understood therefore, that from 10 to 12 per cent. of the passenger train loads represent the general items other than passengers usually included in 'coaching' traffic. Live stock is similarly treated in the case of goods ton mileage, but forms an extremely small item in it.

(*a.*) PASSENGER TRAFFIC.

	East Indian Railway.		Great Indian Peninsula.	Madras.	Bombay, Baroda, and Central India.	Scinde, Punjab, and Delhi.		Eastern Bengal.
	Main.	Jubbulpore.				Scinde.	Punjab and Delhi.	
Average length open, miles	No. 1,280	No. 223¾	No. 1,266¼	No. 858	No. 424	No. 110	No. 553¾	No. 158¾
(1.) Receipts from passenger traffic.	£ 742,416	£ 65,695	£ 438,544	£ 226,369	£ 203,382	£ 11,478	£ 187,795	£ 92,029
(2.) Passenger train miles run	No. 2,138,599	No. 230,876	No. 1,467,561	No. 716,558	No. 482,605	No. 47,812	No. 627,386	No. 216,810
(3.) Average passenger train mile receipts.	s. d. 6 11½	s. d. 5 11½	s. d. 5 11¾	s. d. 6 3¾	s. d. 8 5	s. d. 4 9½	s. d. 6 0	s. d. 9 1½
(4.) Number of passengers carried one mile.	No. 476,414,400	No. 41,634,000	No. 254,228,546	No. 158,856,000	No. 187,490,000	No. 5,991,435	No. 120,188,300	No. 61,672,000
(5.) Average sum received for carrying a passenger one mile.	d. ·374	d. ·396	d. ·414	d. ·342	d. ·355	d. ·46	d. ·375	d. ·336
(6.) Average number of passengers in a train at one time.	No. 223	No. 180	No. 173	No. 221·7	No. 235	No. 125	No. 191·5	No. 284
(7.) Average number of passenger trains per diem *each* way, supposing each train to traverse the whole line open.	No. 2·29	No. 1·41	No. 1·59	No. 1·14	No. 1·56	No. ·695	No. 1·55	No. 1·68
(8.) Average number of passengers passing over each mile of line daily (both ways).	No. 1,020	No. 509	No. 550	No. 507	No. 883	No. 149	No. 594	No. 1,067
(9.) Number of passenger vehicles run one mile.	No. 33,040,436	No. 2,855,680	No. 20,071,392	No. 5,139,691	No. 4,234,639	No. 1,434,360	No. 18,821,880	No. 2,946,210
(10.) Average number of passenger vehicles in a passenger train.	No. 15·45	No. 12·37	No. 13·7	No. 7·17	No. 8·8	No. 30 ?	No. 30 ?	No. 11·8
(11.) Average number of passengers in each vehicle.	No. 14·4	No. 14·5	No. 12·66	No. 30·9	No. 32·5	No. 4·17	No. 6·4	No. 24
(12.) Average earnings of each vehicle per mile.	d. 5·4	d. 5·78	d. 5·25	d. 10·57	d. 11·5	d. 1·92	d. 2·4	d. 9·26
(13.) Total working expenses for both goods and passengers, deducting special and miscellaneous receipts from them.	£ 1,027,929	£ 65,847	£ 1,020,398	£ 329,471	£ 257,767	£ 53,491	£ 228,500	£ 153,894
(14.) Average cost of running a train mile, passenger and goods miles assumed to cost the same.	s. d. 2 9¾	s. d. 2 5½	s. d. 5 2¾	s. d. 3 5	s. d. 5 3	s. d. 7 0	s. d. 3 5¾	s. d. 5 7
(15.) Average cost of carrying a passenger vehicle with its load one mile.	d. 2·18	d. 2·2	d. 4·55	d. 5·73	d. 7·16	d. 2·812	d. 1·375	d. 5·63
(16.) Average cost of carrying a passenger one mile.	d. ·151	d. ·151	d. ·36	d. ·185	d. ·221	d. ·675	d. ·215	d. ·236

(*b.*) GOODS TRAFFIC.

Average length open, miles	No. 1,280	No. 223¾	No. 1,266¼	No. 858	No. 424	No. 110	No. 553¾	No. 158¾
(1.) Receipts from goods traffic	£ 2,350,949	£ 131,146	£ 1,389,033	£ 294,409	£ 304,288	£ 61,073	£ 300,430	£ 211,035
(2.) Goods train miles run	No. 5,192,669	No. 346,279	No. 2,427,093	No. 1,206,915	No. 429,501	No. 104,317	No. 702,096	No. 309,074
(3.) Average goods train mile receipts.	s. d. 9 0½	s. d. 7 6¼	s. d. 11 1¾	s. d. 4 10½	s. d. 12 2	s. d. 11 8¼	s. d. 8 6¾	s. d. 13 7¾
(4.) Tons of goods carried one mile.	Tons. 625,524,000	Tons. 32,381,000	Tons. 201,576,000	Tons. 58,637,472	Tons. 46,025,543	Tons. 10,303,400	Tons. 69,330,000	Tons. 42,420,000
(5.) Average sum received for carrying one ton one mile.	d. ·902	d. ·972	d. 1·63	d. 1·205	d. 1·586	d. 1·423	d. 1·04	d. 1·194
(6.) Average number of tons in a goods train at one time.	Tons. 120·5	Tons. 92·75	Tons 82	Tons. 48·5	Tons. 92	Tons. 98·75	Tons. 99	Tons. 137
(7.) Average number of goods trains per diem each way, supposing each train to run over the whole line open.	No. 5·556	No. 2·13	No. 2·66	No. 1·93	No. 1·61	No. 1·3	No. 1·73	No. 2·07
(8.) Average number of tons of goods passing over each mile of line daily (both ways).	Tons. 1,336	Tons. 396	Tons. 437	Tons. 187	Tons. 297	Tons. 256	Tons. 343	Tons. 748
(9.) Number of goods vehicles run one mile.	No. 146,137,011	No. 8,511,755	No. 58,244,333	No. 13,775,190	No. 15,363,633	No. 3,129,510	No. 21,062,880	No. 9,532,297
(10.) Average number of goods vehicles in a goods train.	No. 28·15	No. 24·4	No. 23·7	No 11·4	No. 30·75	No. 30	No. 30	No. 30
(11.) Average number of tons in each goods vehicle.	Tons. 4·28	Tons. 3·8	Tons. 3·46	Tons. 4·26	Tons. 3	Tons. 3·29	Tons. 3·3	Tons. 4·66

(*b.*) Goods Traffic—*continued.*

	East Indian Railway.		Great Indian Peninsula.	Madras.	Bombay, Baroda, and Central India.	Scinde, Punjab, and Delhi.		Eastern Bengal.
	Main.	Jubbulpore.				Scinde.	Punjab and Delhi.	
(12.) Average earnings of each vehicle per mile.	*d.* 3·56	*d.* 3·69	*d.* 5·64	*d.* 5·13	*d.* 4·75	*d.* 4·68	*d.* 3·424	*d.* 5·5
(13.) Total working expenses for both goods and passengers, deducting from them special and miscellaneous receipts.	£ 1,027,929	£ 65,847	£ 1,020,398	£ 329,471	£ 257,767	£ 58,491	£ 228,500	£ 153,804
(14.) Average cost per train mile, goods and passenger miles assumed to cost the same.	*s. d.* 2 9½	*s. d.* 2 8¼	*s. d.* 5 2½	*s. d.* 3 5	*s. d.* 5 3	*s. d.* 7 0	*s. d.* 3 5¼	*s. d.* 5 7
(15.) Average cost of carrying a goods vehicle with its load one mile.	*d.* 1·195	*d.* 1·126	*d.* 2·64	*d.* 3·5	*d.* 2·05	*d.* 2·812	*d.* 1·375	*d.* 2·23
(16.) Average cost of carrying a ton of goods one mile.	*d.* ·279	*d.* ·294	*d.* ·762	*d.* ·846	*d.* ·685	*d.* ·854	*d.* ·415	*d.* ·496

"An examination of these tables will shew that the highest average passenger train loads were obtained on the Bombay and Baroda and on the Eastern Bengal, amounting to 285 and 284 persons respectively; the lowest on the Scinde, amounting to 125 only; and that the highest average goods train loads were obtained on the Eastern Bengal, amounting to 137 tons; the lowest, on the Madras, amounting to 48½ tons only.

"The lowest train mile cost (omitting the Jubbulpore branch of the East Indian, which is so much affected by receipts from the main line for wagon hire that it had better be left out of account) is found on the East Indian main line, where it amounted to 2*s.* 9⅝*d.*; the highest is found on the Scinde, where it reached 7*s.*

"The costs of carrying a passenger and a ton of goods one mile were lowest on the East Indian main line, amounting to ·151*d.* and ·286*d.* respectively. They were highest on the Scinde, where they reached ·675*d.* and ·854*d.* respectively.

"The lowest average charge for carrying goods was on the East Indian main line, where it was only $\frac{9}{10}d.$ per ton per mile; it was highest on the Great Indian Peninsula, where it amounted to 1·63*d.* The lowest average charge for passengers was on the Madras, where it was ·342*d.* per mile, and the highest on the Scinde, where it was ·46*d.*

"The highest passenger traffic is found on the Eastern Bengal and East Indian main lines, where it amounted to 1,067 and 1,020 persons per mile per diem respectively, or about equal to that of the English London and North-western; and the lowest on the Scinde, where it was only 149 persons per mile per diem.

"The highest goods traffic is found on the East Indian main line, where it amounted to 1,336 tons per mile per diem, about the same, probably, as that of the London and North-western; the lowest is that of the Madras, amounting to 187 tons per mile per diem only."

Fuel. With regard to the question of fuel, efforts are being made in all directions to increase the native supply. That obtained in Bengal and used on the East Indian and the Eastern Bengal Railways maintains its character, and arrangements have lately been made with the Oude and Rohilkund Railway Company, and the Punjab and Delhi Railway Company, by which charges for the conveyance of coal to their respective lines will be so reduced as to make the use of that which can be supplied from Ranegunge and Kurhurbalee more economical than wood. Enquiries are also being made with the view of ascertaining whether the same coal may not be profitably used on the Madras lines. Trials were made by Mr. Boodle, the acting locomotive superintendent of the Madras Railway, under circumstances as identical as possible, with Indian, Australian, and English coal. The result was favourable to Indian coal. The average consumption per mile of English coal was 30·16 to 32·83 lbs., Australian was 27·35, Indian was 31·08; the cost per mile being 6a. 11p., 7a. 1p., and 7a. 1p. for English, 5a. 5p. for Australian, and 4a. 9p. for Indian, the cost price of the English descriptions having been 32r. 6a. 4p. and 30r. 5a. 8p.; of the Australian 27r. 13a. 1p., and of the Indian Tauhoné (Bengal) 21r. 8a. The last has, however, been since supplied at Madras for 18r. 4a., and it is possible that, by arrangements with regard to freight, it may be obtained at a still lower price.

The supplies from the Nerbudda District are now more regular and satisfactory, and soon the Warora mines will be opened and connected with the Great Indian

Peninsula Railway, so that every year an increased consumption of native coal may be expected. Reporting in April 1874, Mr. Walter Ness, the Mining Engineer, says, with regard to the Warora beds, "I compute that at least 20 "millions of coal may be expected, and that there is every reason to believe that "there is a much greater quantity than this on the southern part of the field "which has been only partially proved; but, taking only that now named as "proved, there is a safe store to draw from for about 130 years at 500 tons a day, "which quantity is likely to meet all requirements both for locomotive and "manufacturing purposes."

61. The importance of the fuel question is demonstrated by the following statement, in which it will be seen, that while the East Indian and the Eastern Bengal railways obtained coal at the place of delivery on their respective lines, at the rate of 6*s*. 9*d*. and 16*s*. 1*d*. per ton, it costs the Bombay and Madras lines and those of Central India from 2*l*. 6*s*. to 2*l*. 18*s*. per ton, and that while the Great Indian Peninsula paid on an average 2*l*. 12*s*. 10*d*. for English coal they obtained country coal for 19*s*. 6¼*d*. per ton. To give, however, a more accurate notion of the average cost of the coal when used on the different lines, the cost of transport from the point of delivery to the point of consumption must be added. Taking the actual charge for conveyance at ½*d*. per ton per mile, and allowing for the average distances which the coal has to be carried, about 18*s*. should be added to the figure above given for the East Indian and 3*s*. 6*d*. to that for the Eastern Bengal. This will bring the cost of coal for these railways up to about 24*s*. and 20*s*. per ton respectively. In the same way, about 12*s*. per ton should be added to the cost above stated for the Bombay and Madras lines, making the average prices at the points of consumption 58*s*. and 70*s*.

STATEMENT showing the COST and CONSUMPTION of FUEL at the point of DELIVERY on the respective LINES during the Year 1874.

Railway.	Coal.						Coke.					Patent Fuel.					Wood.				
	Quantity in Tons.	Total Cost.	Cost per Ton.	Consumption.			Quantity in Tons.	Total Cost.	Cost per Ton.	Consumption.		Quantity in Tons.	Total Cost.	Cost per Ton.	Consumption.		Quantity in Tons.	Total Cost.	Cost per Ton.	Consumption.	
				Per Train Mile in lbs.	Per Vehicle per Mile.					Per Train Mile in lbs.	Per Vehicle per Mile.				Per Train Mile in lbs.	Per Vehicle per Mile.				Per Train Mile in lbs.	Per Vehicle per Mile.
		£ s. d.	£ s. d.					£ s. d.	£ s. d.				£ s. d.	£ s. d.				£ s. d.	£ s. d.	lbs.	lbs.
East Indian, Main Line	179,185	60,510 13 5	0 6 9	54·75																	
" Jubbulpore Line.	11,728	16,231 12 7	1 7 8	45·31													40	8 8 5	0 4 1	·01	
Great Indian Peninsula	71,156	164,957 15 2	2 6 4	40·61	1·93		3,591	10,213 3 6	2 16 11	2·05	·10						1,920	974 18 0	0 10 2	1·10	·05
Madras - -	10,739	26,581 0 0	2 9 6				591	1,775 0 0	3 0 1			676	1,488 0 0	2 4 0			58,405	23,985 0 0	0 8 2		
Bombay, Baroda, and Central India.	21,229	54,756 19 10	2 11 7	46·44	1·96												473	241 10 10	0 10 2	1·03	·04
Scinde, Punjab, and Delhi.	16,268	39,878 11 8	2 9 0·3	22·98	0·873												30,692	14,809 9 8	0 9 7·8	43·35	1·648
South Indian - -	4,165	11,249 13 4	2 14 0	28·81	1·75		3	12 11 0	4 3 8	·62	·001						3,308	1,816 3 2	0 10 11	22·88	1·39
Eastern Bengal -	14,602	11,756 4 7	0 16 1	58	·77												30	23 3 11	0 15 5		
Oude and Rohilkund -	145	247 0 0	1 14 0	·52	·02												16,380	6,483 0 0	0 7 11	59·40	2·97
Totals for guaranteed Railways.	329,217	386,169 10 7					4,185	12,000 14 6	10 0 8			676	1,488 0 0	2 4 0			111,248	48,341 14 0			
STATE.																					
Calcutta and South-Eastern.	1,298	1,282 10 10	0 19 0	75·96	4·17												7	3 15 9	0 10 10	0·41	0·02
Nulhatee - -	618	652 18 1	1 1 1	40·80	3·78																
Oomrawuttee - -	180	496 0 0	2 15 0	54	4⅓												15	7 0 0	0 9 4	5	⅓
Khangaum - -	62	165 6 0	2 13 4	35	2												10	4 13 10	0 9 5	5	⅓
Holkar - -	6	9 2 0	1 10 4	·31													1286·7	622 4 0	0 9 8	66·60	
Rajpootana - -	2408·33	7,027 6 10	2 18 4½	24·52	1·13												222·80	259 5 8	1 3 3½	2·27	0·14
Wurdha Valley -	87	229 0 0	2 12 8	51	3												4	2 0 0	0 10 0	2	
Nazim's - -	545¼	1,499 2 4	2 15 0	41·91	1·76												11½	5 6 4	0 9 3	·88	·04
Total for all Railways -	334,421½	397,480 16 8															112,805	49,245 19 7			
Indus Steam Flotilla -																	42,960	19,294 0 0	0 8 11·8		
Totals for Railways and Flotilla.	334,421½	397,480 16 8					4,185	12,000 14 6				676	1,488 0 0				155,765	68,539 19 7			

Moving of troops on rail way.

62. Another subject of interest connected with railway traffic may be briefly referred to, viz., the conveyance of troops by train. Experiments were made in the Punjab, under the directions of General Sir Charles Reid, to ascertain in what time guns and horses could be transported and landed, and the following were the results:—66 horses harnessed were embarked in 11½ minutes: platforms were fixed in 4½ minutes, and the horses were reshipped in 2 minutes. Half a battery fully equipped for service was ready to move in 39 minutes. From the time of disembarking to firing the first gun 6½ minutes elapsed, second gun 9½, third 13½ minutes. The whole, including guns, limbers, wagons, &c. were disembarked in 35½ minutes. A squadron of cavalry was embarked in 6 minutes.

Police.

63. The difficulties connected with the police arrangements seem to be disappearing, although considerable energy on the part of the superintendents is still necessary to prevent extortions and other malpractices. Considerable cleverness has been shown on the Bombay lines, in detecting culprits and bringing them to justice. In October the body of a man was discovered on the Great Indian Peninsula Railway completely cut in half by a train. It showed traces, however, of ill-usage, which led to suspicions falling on his wife. The crime was ultimately traced to four men, her accomplices, and they were all found guilty and sentenced to death. The robbery of a passenger by abstracting Rs. 8,500 from his bag when asleep was also detected and traced to seven people, members of a tribe or society, who by quarrelling over their booty, assisted the police in their enquiries.

Feeder roads.

64. In connexion with the subject of traffic, I may mention that the Government of India and the Local Governments have taken up with earnestness the subject of approach roads to stations, and that a systematic attempt appears to have been made to supply, on a comprehensive scale, proper feeders for connecting the railways with the emporia of trade and the agricultural districts in their neighbourhood.

Effect of increase of native manufactures.

65. The growth of manufactures in India will affect railway traffic in opposite directions. Exports of raw materials will probably be reduced, while imports may be expected to increase. But we may be pretty sure that, in the long run, whatever adds to the prosperity of the country will improve railway receipts.

NET EARNINGS and LOSSES of the INDIAN RAILWAYS during 1874.

Railway.	Amount.	Per Train Mile.	Per-centage of Receipts.
	£	s.	
GUARANTEED.			
East Indian, Main Line	2,061,921	5·62	65·
„ Jubbulpore Line	134,956	4·66	57·
Great Indian Peninsula	754,728	4·02	41·
Madras	191,305	1·99	36·
Bombay, Baroda, and Central India	257,143	5·02	48·
Scinde, Punjaub, and Delhi	266,443	3·531	40·
South Indian	34,840	2·3	42·
Eastern Bengal	*167,721	5·59	46·
Oude and Rohilkund	71,320	2·48	36·
STATE.			
Calcutta and South-eastern	1,975	1·12	22·
Holkar	1,631	0·80	15·80
Rajpootana	11,161	1·09	20·
Wurdhá Valley Loss	95	·50	4·93
Nizam's	623	·43	5·93
Nulhuttee	2,558	1·64	33·
BERAR.			
Oomrawuttee	967	2·62	34·71
Kamgaun	465	2·31	18·85

* Excluding steamboat service.

FARES and RATES in use on the INDIAN RAILWAYS.

Railway.	Passengers. Fare for travelling One Mile. First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Goods. Rate for conveying One Ton One Mile. Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special.
GUARANTEED.	pies.*	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.
East Indian, Main Line.	18	9	4½	3	Nil	9·073	13·61	18·146	22·683	27·221	From 4·54 pies for coal up to 9·073 pies.
East Indian, Jubbulpore Line.	18	9	4½	3	—	9·073	13·61	18·146	22·683	27·221	From 5·44 pies up to 9·073 pies.
Great Indian Peninsula.	18	9	—	4	2½	10	14	24	34	48	
Madras - -	15	6½	—	3½	2	12	14	18	24	36	From 6½ pies up to 10 pies.
			Third By Mail Train.	Class.							
Bombay, Baroda, and Central India.	15	7	4	3	—	11·49	14·48	18·63	31·19	43·39	From 8 pies up to 8·62 pies.
Scinde, Punjab, and Delhi.	18	9	4½	3	—	9·60	14·81	19·26	25·37	29·	
South Indian -	12	5	—	2	—	12	14	18	24	36	From 6 pies up to 10 pies.
Eastern Bengal -	12	6	—	4½	3	9·33	14	18·66	28	56	From 6·15 pies up to 11·23 pies.
	Upper	Upper Reserved	Lower	Lower Reserved	L. Resrvd. Cmptmnt.						
Oude and Rohilkund	9	36	2	3	16 & 24	9·08	13·62	18·16	22·7	27·25	From 5·40 pies up to 6·80.
STATE.											
Calcutta and South-eastern.	Upper 9·00	Lower 2·67	—	—	—	—	—	—	—	—	
Holkar - -	12·23	4·58	—	2·29	—	13·76	20·64	27·52	—	—	From 6·88 pies.
Rajpootana -	10·46	5·06	—	2·24	1·26	13·52	18·04	25·40	—	—	From 10·44 pies.
Wurdha Valley -	18	9		4	2½	10	14	24	34	48	From 5 pies up to 8 pies.
Nizam's - -	18	9	—	4	2½	10	14	24	34	48	,,
Nulhuttee - -	28·	14·	—	7·	4·57	13·07	21·56	30·	47·55	83·46	From 7·77 pies.
BERAR.											
Oomrawuttee -	18	9	—	4	2½	10	14	24	34	48	From 5 pies up to 8 pies.
Kamgaun - -	18	9	—	4	2½	10	14	24	34	48	,,

* 8 pies = 1*d.*

Number of LOCOMOTIVES and VEHICLES owned by the Guaranteed Railway Companies.

Railway Company.	Locomotives.			Passenger Carriages.		Goods Trucks and Waggons.		Total Number of Vehicles on 31st December 1874.
	Former Number.	Added in 1874.	Total Number, 31st Dec. 1874.	Former Number.	Added in 1874.	Former Number.	Added or Deducted in 1874.	
East Indian - -	525	[less 7]	518	924	—	6,794	[less 130]	7,588
Great Indian Peninsula -	330	15	345	1,296	13	6,684	—	7,993
Madras - - -	126	—	126	368	15	3,267	[less 67]	3,583
Bombay, Baroda and Central India - - -	85	—	85	235	[less 2]	2,844	[less 36]	3,041
Scinde, Punjab, and Delhi -	135	—	135	444	—	1,941	72	2,462
South Indian - -	21	4	25	43	48	347	26	464
Eastern Bengal - -	43	—	43	158	—	705	2	865
Oude and Rohilkund - -	60	2	62	195	48	556	75	874
Totals - -	1,325	28	1,339	3,663	103	23,118	[less 38]	26,870

The following statement gives the comparative quantities of the chief articles of traffic carried during the last two years. A very large increase will be observed in grain, seeds, and rice. Coal also has increased. Cotton on the Bombay lines increased, but on the East Indian diminished:—

STATEMENT showing the QUANTITIES of the principal Articles of MERCHANDISE, &c., carried on the INDIAN RAILWAYS in 1873 and 1874.

Articles.	East Indian, Main Line.		East Indian, Jubbulpore Line.		Great Indian Peninsula.		Madras.		Bombay, Baroda, and Central India.		Scinde, Punjab, and Delhi, and Indus Steam Flotilla.		South Indian.		Eastern Bengal.		Oude and Rohilkund.	
	1874.	1873.	1874.	1873.	1874.	1873.	1874.	1873.	1874.	1873.	1874.	1873.	1874.	1873.	1874.	1873.	1874.	1873.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	See piece goods.		See piece goods.		—	—	5,783	5,466	See piece goods.		See piece goods.		2,182	2,093	—	—	—	—
Coal	505,519	417,878	2,506	212	917 (including coke.)	1,524	324	817	2,742	2,067	507	321	—	—	8,643	11,289	1,414	506
Cocoa-nuts	See dried fruits.		See dried fruits.		9,625	8,821	2,401	2,393	3,763	3,737	See dried fruits.		—	—	—	—	—	—
Coffee	—	—	—	—	—	—	4,834	5,250	29	25	49	85	—	—	—	—	—	—
Cotton	21,347	43,095	1,491	3,805	110,709	84,252	20,796	19,328	46,248	37,969	5,974	7,166	—	—	471	426	4,401	2,336
Dried Fruits	5,081	4,905	2,737	2,836	12,444	12,225	—	—	3,807	6,072	6,280	6,249	—	—	—	—	—	—
Firewood	12,346	17,573	8,817	14,728	25,741	16,601	9,588	10,446	8,025	8,412	14,848	24,938	—	—	—	—	3,707	38
Grain	340,248	165,254	63,639	23,007	232,036	133,851	33,688	24,735	32,188	27,284	246,339	138,596	36,940	32,312	15,241	11,612	39,439	19,736
Green Fruits and Vegetables	—	—	—	—	12,336	10,971	5,537	4,611	12,988	6,893	2,253	2,061	3,513	2,760	—	—	—	—
Hides	22,913	23,633	835	1,763	2,693 (including horns.)	4,697	6,152	7,954	638	1,292	2,778	3,490	807	890	5,355	3,722	2,179	1,345
Iron	60,720	43,437	4,348	2,710	—	—	6,817	5,499	See metal.		See metal.		—	—	28	44	—	—
Jagree and Sugar	50,686	55,622	20,146	21,132	20,958	21,630	13,427	12,149	22,223	21,803	29,778	29,685	—	—	8,058	7,796	17,548	9,633
Jute	1,016	759	265	207	—	—	—	—	—	—	See hemp & flax.		—	—	112,407	124,049	510	144
Metal and Hardware	—	—	—	—	39,176	46,579	—	—	5,809	3,934	11,591	7,205	—	—	620	733	4,763	2,908
Military Stores	14,488	15,565	886	810	7,366	8,690	4,197	5,091	1,677	1,978	10,305	10,972	15	83	684	857	3,263	4,055
Oil	3,086	2,097	66	76	9,259	5,910	5,970	6,219	1,342	851	3,927	2,949	1,335	1,297	—	—	630	269
Opium	7,648	7,173	—	1	4,311	3,852	—	—	902	947	See medicines & drugs.		—	—	21	14	332	258
Piece Goods	44,872	42,450	4,755	3,791	16,278	13,115	—	—	7,280	6,762	11,359	7,380	—	—	10,239	9,913	4,930	2,008
Rice	449,978	122,205	1,792	1,109	—	—	63,742	82,672	See grain.		See grain.		See grain.		101,452	15,746	—	—
Salt	123,182	120,318	5,214	4,629	65,802	64,926	43,051	46,813	32,117	23,632	11,344	11,542	11,401	10,534	3,117	1,350	24,734	13,166
Seeds	129,586	110,462	9,570	4,784	63,801	36,565	15,029	12,285	8,968	7,790	29,897	22,570	6,251	3,826	35,623	11,371	7,153	3,844
Silk	664	608	71	31	452	256	—	—	See piece goods.		161	443	—	—	222	270	—	—
Timber	19,154	15,154	1,033	338	15,569	17,094	14,797	16,336	7,691	7,183	6,291	5,815	—	—	—	—	17,022	9,228
Tobacco	9,508	11,403	1,354	814	3,313	2,331	6,352	5,203	7,537	5,821	958	871	944	692	14,532	11,637	352	367
Twist	1,869	2,161	264	470	4,928	4,265	4,095	3,804	1,573	1,390	813	3,797	—	—	—	—	693	278
Wines, Spirits, &c.	14,285	16,393	1,006	897	4,254	4,611	1,923	1,583	630	602	4,400	2,327	—	—	189	200	2,704	1,873
Wool	—	—	—	—	162	270	—	—	1,950	2,238	3,698	6,767	—	—	—	—	—	—

STATEMENTS relating to the PASSENGER and GOODS TRAFFIC and the GROSS

TABLE No. 1.—STATEMENT of TRAFFIC on the INDIAN

Railway.	Actual Number of Miles open on 31st December, and Average Number of Miles of Open Line during 1874.						Number of Miles of Sidings on 31st December 1874.	Passenger Traffic.						
	Double.		Single.		Total			Number of Passengers (*exclusive of* Holders of Season and Periodical Tickets).						Number of Holders of Season and Periodical Tickets.
	Actual.	Average.	Actual.	Average.	Actual.	Average.		By First Class.	By Second Class.	By Intermediate Class.	By Third Class.	By Fourth or Coolie Class.	Total by all the Classes.	
GUARANTEED.														
East Indian, Main Line	410½	410½	869½	869½	1,279¼	1,279½	2791	44,061	95,750	393,051	5,259,190	Nil	5,792,052	2,171
East Indian, Jubbulpore Line	—	—	223¾	223¾	223¾	223¾	21¼	3,771	6,667	3,954	224,785	—	239,177	—
Great Indian Peninsula	327½	327½	939	939	1,266½	1,266½	202½	27,307	106,498	—	520,692	2,475,597	3,130,094	736
Madras	8¼	—	888	—	888	—	85½	14,787	52,913	—	2,135,368	569,806	2,772,864	210
Bombay, Baroda, and Central India	23	23	405½	401	428½	424	68¼	20,750	169,014	—	Third Class Mail 372,144	Ordy. 3,175,188	3,737,096	4,669
Scinde, Punjab, and Delhi	4¼	4¼	659	659	663½	663½	103¼	14,623	28,608	18,332	2,049,939	—	2,112,102	—
South Indian	—	—	187	—	187	—	15½	2,761	15,757	—	1,499,026	—	1,517,544	2
Eastern Bengal	158¼	—	158¼	—	158¼	—	40½	29,342½	51,041¼	—	329,216	1,127,899	1,537,499	2,810
Oude and Rohilkund	—	—	540	524	540	524	44	17,564 Upper	—	—	1,977,326 Lower	—	1,994,890	—
STATE.														
Calcutta and South-eastern	—	—	28	—	28	—	8½	—	3,483 Upper	—	—	431,735 Lower	435,218	—
Holkar's	—	—	37	36	37	36	4¾	682	2,704	—	106,091	—	109,477	—
Rajpootana	—	—	291¾	168¾	291¾	168¾	16½	1,995	4,264	—	235,796	443,534	685,589	3
Wardha Valley	—	—	18	18	18	18	1½	222	250	—	1,974	7,816	9,963	—
Nizam's	—	—	121	121	121	121	6	350	2,538	—	16,211	55,969	75,568	—
Nulhuttee	—	—	27½	—	27½	—	1½	570½	1,936½	—	4,056½	63,306½	69,870	—
BERAR.														
Oomrawuttee	—	—	6	6	6	6	—	685	1,806	—	42,478	—	44,969	—
Kamgaun	—	—	8	8	8	8	—	220	388	—	6,001	1,196	7,805	—
Totals for Railways	926½	765½	5,376¾	43,973¾	6,142	4,739	893½	180,191	543,618	415,937	14,779,983½	8,352,046½	24,271,776	17,420
Indus Steam Flotilla	—	—	—	—	—	575	—	249	182	—	8,252	—	8,683	—
Totals for Railways and Flotilla						5,314		180,440	543,800		14,788,235½		24,280,459	

RECEIPTS and EXPENSES for the Year ended 31st December 1874.

RAILWAYS during the Year ended 31st December 1874.

Goods Traffic.										
	Number of Tons of Minerals.			Number of Tons of General Merchandise.						
Number of Live Stock.	Number of Tons of Coal and Coke.	Number of Tons of all other Minerals.	Total Number of Tons of Minerals.	Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special and Sundry.	Total of all Classes.
19,505	505,519	—	505,519	1,353,901	128,480	45,110	26,595	4,139	74,337	1,632,562
130	2,506	—	2,506	146,449	13,588	5,835	1,996	295	6,441	174,604
261,064	942	—	942	510,917	161,211	31,248	39,464	5,553	103,000	including coal 852,335
10,861	—	—	—	125,707	45,193	21,910	7,920	3,897	165,939	370,566
174,498	28,263	98,785	127,048	81,581	41,271	46,196	1,264	1,523	95,687	267,522
2,270	—	28,464	28,464	103,345	43,289	19,510	12,931	1,854	277,471	458,400
2,188	—	—	—	67,724	288	140	602	215	53,261	122,230
2,159	5,642	11,414	17,056	115,633	49,826	3,335	1,476	251	158,516	329,037
1,553	1,403	—	1,403	51,112	8,940	8,924	4,502	720	133,403	including coal 209,004
113	392	—	392	—	—	—	—	—	29,574	29,574
—	—	—	—	13,517	1,053	1,918	—	—	1,054	17,542
—	59	—	59	54,320	3,447	599	—	—	58,276	116,942
—	—	—	—	5,487	3,761	94	38	1	—	9,381
—	—	—	—	2,916	1,172	525	109	124	—	4,837
1	4,061	—	4,061	2,902	1,156	1,128	399	22	7,26	12,867
—	—	—	—	7,367	21,033	801	127	31	—	29,409
—	—	—	—	3,155	22,579	306	156	3	—	26,199
474,437	548,787	138,663	687,450	2,646,333	546,292	187,579	97,570	18,678	1,164,219	4,663,016
—	—	—	—	—	—	—	—	—	—	33,608
										4,696,624

STATEMENT of TRAFFIC on the INDIAN RAILWAYS

Railway.	Number of Engines and Vehicles used in conveying Traffic.												Number of Miles in shunting.		
		Carriages.							Average Number of Vehicles in each Train.						
											In each Mixed Passenger and Goods Train.				
	Engines.	First Class.	Second Class.	Intermediate Class.	Third Class	Fourth Class.	Total Number.	Trucks.	Carriages in each Passenger Train.	Trucks in each Goods Train.	Carriages.	Trucks.	By Passenger (including Special and Troop) Trains.	By Goods (including Construction Materials for other Railways) Trains.	By Mineral Trains.
GUARANTEED.															
East Indian, Main Line	485	1st half 77 2nd „ 77	85 85	47 66	321 310	—	530 538	5,211 5,200	16½ 16½	30½ 29½	13½ 14½	7½ 8½	1,196,515½	4,518,088½	177,478½
„ Jubbulpore Line	41	1st half 8 2nd „ 8	13 13	4 4	28 28	— —	53 53	835 836	14½ 14½	28 27	6½ 6	16½ 17½	168,920½	246,796½	266½
Great Indian Peninsula	331	79	146	composite 87	369	67	748	6,760	14·40	24·49	7·56	20·0	1,312,373	2,027,277	—
Madras	94	27	64	composite 99	209	39	375	2,966	12	18	7	8	24,757	410,387	—
Bombay, Baroda, and Central India	64	11	28	composite 15	121	—	175	2,539	8·7	41·25	9·0	15·34	362,686½	297,284	—
Scinde, Punjab, and Delhi	156	49	75	8	239	—	371	3,045			30		587,148	718,365	—
South Indian	25	composite 14	8	—	54	—	76	incl. break vans 388	—	—	8	15	—	—	—
Eastern Bengal	43	20	16	—	35	63	134	781	13	34	4	25	216,810½	178,333½	—
Oude and Rohilkund	56	upper 21	lower 126	composite 10	steel 10	—	167	459	16	13	21	24	5,460	53,861	17,638
STATE.															
Calcutta and South-eastern	5	—	upper 5	—	—	lower 20	25	242	—	—	10	9	—	—	—
Holkar's	5	4	5	—	29	3	41	57	12	17	9	6	24,476	8,107	—
Rajpootana	25	9	10	—	70	8	122 incl. engines	397	—	—	10·44	11·11	2,327	44,883	—
Wurdha Valley	1	—	—	composite 1	2	2	5	23	—	16·35	4·42	13·36	95	793	—
Nizam's	5	4	6	composite 1	10	10	31	70	14·43	21·63	13·24	12·00	3,763	2,946	—
Nulhuttee	5	2		composite 1		3	6	17	—	—	6	15	—	—	—
BERAR.															
Oomrawuttee	2	—	—	composite 1	2	2	5	33	—	20·80	4·65	10·60	—	76	—
Kamgaun	2	—	—	composite 1	2	2	5	33	—	23·70	4·90	14·19	—	832	—
Totals													3,905,236½	8,488,086	195,322

during the Year ended 31st December 1874—*continued.*

travelled by Trains (except piloting, and assisting).					Number of Ton Miles (expressed in the Number of Tons moved One Mile).											
By Mixed Passenger and Goods Trains.		By Trains conveying Materials for Revenue Purposes.	Total Number of Train Miles.	Number of Train Miles per open Mile.	Goods Traffic.										Proportion of Up and Down Traffic.	
							General Merchandise.							Total Mineral and General Merchandise.		
(P.)	(G.)				Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Minerals.	First or Lowest Class, except Special.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Special and Sundry.	Total of all Classes.		Up.	Down.
942,083½	406,502½	220,469½	7,551,167	5,900·50	Train miles. 1,854,755 horses, &c. 3,209,125	86,766,571	235,047,924	55,174,632	14,066,790	10,827,099	1,266,124	160,784,769	527,164,335	613,933,906	47	53
61,956½	101,372	4,310½	584,065	2,619·34	202,831 horses, &c. 204,288	311,783	26,397,406	2,539,970	1,228,072	415,418	44,854	1,440,386	32,057,106	32,368,889	24	76
155,188	429,816	—	3,924,654	3,099	—	239,041	136,903,837	47,260,878	8,644,215	9,268,088	1,710,809	927,000	198,714,877	198,953,918	57	43
691,801	793,523	—	1,925,473	—	874,115	—	18,356,411	7,648,214	3,571,836	1,521,344	529,634	26,022,067	57,649,606	57,649,606	58·15	41·85
119,918	202,217½	41,872½	1,023,978½	2,415	125,348 luggage only.	2,232,470	12,915,782	8,183,183	11,398,101	234,017	417,065	10,584,925	43,733,073	46,025,543	57·23	42·77
88,949	88,050	104,150	1,585,762	1,195	317,506	1,847,853	13,137,706	7,590,898	3,373,430	1,907,435	95,499	51,116,827	77,431,595	79,279,448	33	67
*314,206		9,616	333,822	1,732	69,604	—	3,996,722	11,086	3,376	50,207	12,718	3,614,701	7,693,880	7,693,880	41	59
†32,670	130,691	—	558,555	3,529	200,083	1,702,098	13,591,148	6,634,314	406,466	162,771	21,426	20,891,683	40,707,808	42,409,906	30·05	69·95
238,977	273,116	48,671	7,7 21	1,144	163,069	47,831	5,158,579	960,509	987,519	523,025	74,058	8,991,708	16,696,298	16,744,129	not kept.	
23,923	14,354	180	38,457	1,373	2,542	3,345	—	—	—	—	—	678,383	678,383	681,728	96·23	3·77
4,998	2,994	2,702	43,277	1202·14	—	—	473,663	38,066	63,942	—	—	39,012	614,623	614,623	30	70
110,322	62,639	—	219,971	1,303	68,952	1,941	2,791,783	276,667	47,988	—	—	1,993,445	5,109,903	5,111,844	32	68
1,064	1,862	—	3,819	201	—	—	103,410	71,441	1,781	731	21	—	177,381	177,384	—	—
14,207	8,225	—	29,146	241	—	—	230,874	155,451	59,977	11,147	9,168	—	475,617	475,617	—	—
12,722	21,204	133	34,059	1,250	8,927	110,665	67,902	30,550	30,372	10,785	598	197,843	338,050	448,715	79·12	20·88
4,552	2,750	—	7,380	1,230	—	—	44,200	126,198	4,868	753	495	—	176,454	176,454	—	—
1,233	1,951	—	4,016	502	—	—	25,243	180,635	2,445	1,247	25	—	209,595	209,595	—	—
2,503,504	2,636,752	432,134	18,475,322			93,323,598	312,251,580	136,373,462	43,896,218	24,935,067	4,392,494	287,232,746	1,009,031,587	1,102,355,185		
*314,206																
5,454,542																

† There was an error in the return sent home, the figures for passengers and goods having been the same, viz., 81,030. They have been corrected as well as they could be.

TABLE No. 3.—GROSS RECEIPTS of the INDIAN RAILWAYS

Railway.	Passenger Traffic.													Receipts from Live Stock.
	Receipts from Passengers.							Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Receipts for Mail Service.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic—(P.)	Passenger Receipts per Train Mile.	
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.							
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	£	s.	£
East Indian, Main Line	38,314	31,123	31,380	544,719	—	3,719	649,255	69,365	3,032	2,408	13,361	742,416	6·94	14,56
„ Jubbulpore Line	5,342	3,855	1,638	41,654	—	—	52,489	6,755	1,005	184	8,260	68,695	5·95	63
Great Indian Peninsula	29,530	25,673	—	90,459	178,431	398	324,991	47,254	2,203	939	63,157	438,544	5·98	6,01
Madras	11,535	10,962	—	154,569	21,268	371	198,705	20,519	—	686	6,479	226,389	6·318	1,71
Bombay, Baroda, and Central India	4,771	10,543	Third class. Mail 49,051	Ordinary 117,375	—	3,106	184,844	14,955	165	1,080	2,358	203,382	8·43	9,29
Scinde, Punjab, and Delhi	9,720	9,289	Inter-mediate 3,151	Third class 152,980	—	—	175,140	16,946	577	462	6,149	199,274	5·909	78
South Indian	717	1,386	—	46,002	—	5	48,110	2,127	7	536†		50,780	3·2	50
Eastern Bengal	3,582	3,191	—	19,435	59,764	1,606	87,578	10,838	69	544	—	99,029	9·13	41
Oude and Rohilkund	—	Upper class 4,926	—	—	Lower class 94,956	—	99,882	7,887	—	278	897	109,283	8·94	1,63
STATE.														
Calcutta and South-eastern	—	Upper class 209	—	—	Lower class 5,407	—	5,616	161	Nil	14	Nil	5,791	4·84	12
Holkar's (11 months)	145	152	—	3,641	—	—	3,938	279	—	117	34	4,368	2·96	—
Rajpootana	457	541	—	12,161	8,470	12	21,641	1,181	—	25	—	22,847	4·663	—
Wurdha Valley	31	18	—	66	174	—	283	33	—	—	—	316	5·45	—
Nizam's	391	542	—	1,480	3,806	—	6,219	547	—	74	137	6,977	7·76	7
Nulhuttee	195	300	—	304	3,417	—	4,306	842	90	30	—	5,268	8·28	1
BERAR.														
Oomrawuttee	36	45	—	549	—	—	630	71	—	—	1	702	3·06	—
Kamgaun	14	12	—	91	11	—	128	28	—	—	—	156	2·53	—
Totals for Railways	104,780	102,767	85,220	1,185,567	375,704	9,717	1,863,755	199,788	7,148	6,801	105,823	2,184,197 530†	—	34,21
Indus Steam Flotilla	1,418	223	—	3,619	—	—	5,260	170	—	—	—	5,430	—	17
Totals for Railways and Flotilla	106,198	102,990	85,220	1,189,186	375,704	9,717	1,869,015	199,958	7,148	6,801	105,823	2,190,163	—	34,23

during Year ended 31st December 1874.

Goods Traffic.												Total Receipts from Passenger and Goods Traffic—(P.)+(G.)	Passenger and Goods Receipts per Train Mile.	Total Miscellaneous Receipts—(M.)	Miscellaneous Receipts per Train Mile.	Total Receipts from Passengers, Goods, and Miscellaneous—(P.)+(G.)+(M.)	Total Receipts per Train Mile.
Receipts from Minerals.			Receipts from General Merchandise (*exclusive of* Live Stock and Minerals).							Total Receipts from Goods Traffic—(G.)	Goods Receipts per Train Mile.						
From Coal and Coke.	From other Minerals.	Total Receipts from Minerals.	From First or Lowest Class, except Special.	From Second Class.	From Third Class.	From Fourth Class.	From Fifth or Highest Class.	From Special and Sundry.	Total.								
£	£	£	£	£	£	£	£	£	£	£	s.	£	s.	£	s.	£	s.
241,532	—	241,532	1,585,140	352,305	131,360	97,430	18,718	115,091	2,100,044	2,350,949	9·06	3,093,365	8·44	94,280	·257	3,187,645	8·697
1,445	—	1,445	93,429	17,963	9,800	4,061	688	4,057	129,998	131,146	7·52	193,841	6·72	35,195	1·214	235,037	8·108
701	—	701	578,721	469,878	168,933	139,930	47,475	18,338	1,363,275	1,369,991	11·75	1,808,535	9·22	40,013	·20	1,848,548	9·42
—	—	—	92,271	48,321	28,782	16,029	7,923	97,876	291,202	292,915	4·846	519,284	5·394	22,145	·230	541,429	5·624
*1,105	6,074	7,179	70,872	56,585	101,386	3,485	8,639	44,064	285,031 †7,141 ‡1,608	304,288	12·13	597,670	10·34	39,351	·60	637,021	10·94
—	5,521	5,521	60,237	53,659	31,022	23,107	4,230	183,640	355,884	362,193	8·982	561,467	7·579	43,808	0·591	605,275	8·170
—	—	—	23,546	81	74	611	244	13,335	37,891	37,941	2·4	88,721	5·6	2,468	·1	91,189	5·7
3,527	2,457	5,984	56,106	44,344	3,622	2,176	573	98,188	205,009	211,054	19·83	310,063	11·10	16,714	·59	326,777	11·70
193	—	193	23,504	7,463	9,344	6,222	1,087	38,171	85,731	87,587	5·40	196,870	6·91	3,531	·12	200,401	7·04
24	Nil	24	Nil	Nil	Nil	Nil	Nil	2,670	2,670	2,706	3·77	8,497	4·43	1,451	·76	9,948	5·19
—	—	—	3,597	445	1,070	—	—	149	5,261	5,261	9·47	9,629	4·75	690	0·34	10,319	5·09
8	—	8	19,659	2,600	635	—	—	10,844	33,738	33,746	6·277	56,598	5·145	5,104	·464	61,697	5·609
—	—	—	775	744	33	21	1	2	1,576	1,576	11·85	1,892	9·91	35	·18	1,927	10·09
—	—	—	1,180	1,172	709	187	209	16	3,473	3,480	6·23	10,457	7·18	51	·03	10,598	7·21
671	—	671	467	352	472	275	23	833	2,422	3,094	2·92	8,362	4·93	149	·09	8,511	5·02
—	—	—	407	1,478	113	25	27	13	2,063	2,063	14·59	2,765	7·50	21	·05	2,786	7·55
—	—	—	203	2,015	46	33	1	1	2,299	2,299	16·52	2,455	12·22	12	0·06	2,467	12·28
249,206	14,052	263,258	2,410,094	1,059,345	427,401	293,592	89,838	627,297	4,910,315	5,202,269		7,336,466		305,018		7,631,485	
									71,163	71,339		76,769		206		76,975	
									4,981,478	5,273,608		7,463,235		305,224		7,758,460	

* Barth trains. † Municipal meat train traffic. ‡ Local salt trains, Kharagora.

TABLE No. 4.—EXPENDITURE ON REVENUE ACCOUNT

Railway.	Maintenance and Renewal of Way and Works.				Cost of producing Locomotive Power by Wages and Materials.			Repairs and Renewals of Carriages and Waggons.			Coaching and Merchandise.			Collection and Delivery of Goods.		
	Gross.		Train Mile.	Per cent. of Gross Receipts.	Gross.	Train Mile.	Per cent. of Gross Receipts.	Gross.	Train Mile.	Per cent. of Gross Receipts.	Gross.	Train Mile.	Per cent. of Gross Receipts.	Gross.	Train Mile.	Per cent. of Gross Receipts.
	Ordinary.	Special.	Per Mile.		Gross.	Per Mile.		Gross.	Per Mile.		Gross.	Per Mile.		Gross.	Per Mile.	
GUARANTEED.	£	£	d.		£	d.		£	d.		£	d.		£	d.	
East Indian, Main Line	203,420	Nil	6·66	6·38	324,804	10·63	10·19	100,853	3·30	3·16	342,496	11·21	10·74	Nil	Nil	Nil
„ Jubbulpore Line	16,889	Nil	6·99	7·19	36,989	15·31	15·74	12,581	5·21	5·35	21,260	8·80	9·04	Nil	Nil	Nil
Great Indian Peninsula	245,094	23,419	16·42	14·53	384,760	25·53	20·81	121,074	7·40	6·55	161,523	9·88	8·74	23,728	1·45	1·23
Madras	103,508	8,618	18·97	20·71	118,668	14·79	21·92	23,312	2·90	4·31	54,259	6·76	10·02			
Bombay, Baroda, and Central India.	56,580	*Cr.* 7,240	11·56	9·19	98,837	23·17	18·41	29,304	6·87	5·46	42,739	10·02	7·96	11,378	2·66	2·11
Scinde, Punjab, and Delhi	70,792		10·713	11·696	134,646	20·378	22·246	28,187	3·969	4·327	56,269	8·515	9·297	875	0·132	0·144
South Indian	Gross 11,418	—	8·4	12·5	24,421	18·1	26·8	5,275	3·9	5·8	8,369	6·2	9·2			
Eastern Bengal	30,303		16·88	12·02	35,978	15·45	11·01	20,623	8·86	6·31	39,973	17·17	12·23	—	—	—
Oude and Rohilkund	30,407	—	11·81	15·17	38,554	14·96	19·24	10,132	3·93	5·05	28,390	11·03	14·17			
STATE.																
Calcutta and South-eastern	1,794	Nil	11·24	18·04	3,359	21·06	33·76	415	2·60	4·17	1,080	6·77	10·85	9	·05	·09
Holkar's	1,578	126	9·45	16·52	2,807	15·56	27·19	513	2·84	4·97	2,063	11·44	19·99	120	0·67	1·16
Rajpootana	15,028		16·40	24·36	17,140	18·71	27·78	1,409	1·54	2·28	6,960	7·59	11·28	1,018	1·77	2·63
Wurdhá Valley	Gross 512		32·17	26·57	574	36·07	29·79	78	4·90	4·05	495	31·11	25·68			
Nizam's	2,107	—	18·09	20·91	3,062	32·62	37·70	—	—	—	3,227	26·57	30·71	—	—	—
Nulhuttee	1,238		8·76	14·55	1,922	13·59	22·58	622	4·40	7·31	926	6·55	10·88	208	1·47	2·44
BERAR.																
Oomrawuttee	Gross 361		11·74	12·95	1,185	38·54	42·53	176	5·72	6·32	748	24·32	26·85	—	—	—
Kamgaun	278	—	16·61	11·27	505	30·18	20·47	78	4·66	3·16	337	20·13	13·66	—	—	—
Totals for Railways	757,699	24,923			1,229,111			362,632			771,114			37,936		
Indus Steam Flotilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals for Railways and Flotilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

during Year ended 31st December 1874.

Rates and Taxes.			Compensation for Personal Injury, &c., Damage and Loss of Goods.				Legal and Parliamentary Expenses.			Miscellaneous Working Expenditure, not included in the foregoing.			Total Working Expenditure.		
Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.		Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.
			Personal.	Goods.											
£	d.		£	£	d.		£	d.		£	d.		£	s.	
5,007	·16	·16	Nil	3,972	·13	·12	1,386	·04	·04	143,786	4·71	4·51	1,125,724	3·07	35·32
Nil	Nil	Nil	Nil	412	·17	·17	1	Nil	Nil	11,949	4·94	5·08	100,061	3·45	42·58
908	·06	·05	2,948	2,237	·32	·28	1,372	·08	·07	91,518	5·60	4·95	1,058,581	5·40	57·26
646	·08	·12	402	90	·06	·09	916	·11	·17	39,705	4·95	7·33	350,124	3·63	64·67
650	·15	·12	46	351	·10	·07	340	·07	·06	46,893	10·99	8·74	279,878	5·47	52·12
152	0·019	0·021		954	0·144	0·157	372	0·056	0·061	53,452	8·089	8·831	543,679	4·33	56·781
87	·06	·1		7	·005	·007				5,797	4·3	6·3	55,374	3·4	60·7
666	·28	·20	1	793	·34	·24	2,397	1·03	·73	30,779	13·22	9·41	170,513	6·10	52·18
				620	·24	·32	31	·01	·01	20,948	8·13	10·45	129,082	4·17	64·41
83	0·52	0·83	Nil	Nil	Nil	Nil	Nil	Nil	Nil	1,054	6·60	10·60	7,794	4·07	78·34
Nil	Nil	Nil	Nil	5	0·03	0·05	Nil	Nil	Nil	1,476	8·18	14·30	8,688	4·	84·18
				12	·01	·02				7,531	8·22	12·21	49,696	4·52	80·55
										303	22·81	18·84	2,022	10·53	104·93
—	—	—	—	—	—	—	—	—	—	409	4·11	4·75	9,885	6·78	94·07
15	·11	·18		3	·02	·03				789	5·59	9·27	5,723	3·38	67·24
—	—	—	—	—	—	—	—	—	—	1,283	41·67	46·06	3,753	20·17	134·71
—	—	—	—	—	—	—	—	—	—	804	48·05	32·59	2,002	9·97	81·15
													3,702,601		
. . . . .													73,646		95·675
. . . . .													3,776,247		

SUMMARY.

66. During the year 1874, 558 additional miles of railway were completed, bringing the whole extent now open in India up to 6,273 miles, of which 5,546 have been made with a single, and 727 with a double line of rails; 5,686 have been constructed on the 5′ 6″, and 587 on the metré gauge.

67. The gauge for the Indus Valley and the Northern Punjab Railways, has been changed from the metré to the 5′ 6″, and the necessary measures have been taken for proceeding with the works accordingly. One of the most important bridges in the whole railway system of India has just been opened, viz., the one over the Ganges at Cawnpore, which connects the Oude and Rohilkund lines with the East Indian, and thus brings these provinces into direct railway communication with the rest of India.

68. It has been decided during the year to add to the lines already sanctioned, one in British Burmah, to connect Rangoon with Prome, a distance of 160 miles, and another in Rajpootana, extending north from Indore, and joining at Ajmere the railway now being constructed to that place from Delhi.

69. The floods of last season were unusually severe, but serious damage to railway works was confined to the Madras Railway, on which several large bridges were either wholly or partially destroyed, and the traffic was interrupted for several weeks.

70. The railways of Bengal and the Upper Provinces played an important part during the famine. Without their aid, the exertions which were made to supply food to the districts where scarcity prevailed would have been ineffectual. The total quantities delivered by the railways were 306,697 tons of corn, 440,886 tons of rice, and 95,113 tons of pulses, of which 616,993 tons were conveyed from Calcutta, 172,333 from the North-west, and 53,370 from the Central Provinces. The officers both of Government and of the railway companies who were engaged in the work received the special thanks of the Government of India for the zealous and efficient manner in which they performed their duties.

71. In the course of the year 1874 railway material, consisting of permanent way, bridge girders, machinery, and miscellaneous stores, and weighing 156,636 tons, were sent out; also 108,478 tons of fuel. On their arrival in India, these goods had cost including freight about 2,480,000*l.* Since the railways were commenced no less than 4,893,535 tons of materials have been shipped from this country, the cost of which amounted to 33,140,453*l.* before they were despatched.

72. Of the 95,119,119*l.* of money which has been raised by the eight existing guaranteed companies, 81,538,000*l.* is held by 62,300 proprietors, of whom 56,797 are on the English register (24,050 possessing stock or shares to the amount of 1,000*l.* and upwards, and 32,747 of less amount), and 864 are on the Indian registers, of whom 448 are Europeans, and 416 natives. The remaining 13,580,687*l.* has been issued in the shape of debentures or debenture stock.

73. The total number of persons employed on the railways on the 30th September last was 101,595, of whom 96,013 were natives, 3,239 Europeans, and 2,343 East Indians. The employment of natives and Indian-born labourers is becoming more general, and they are by degrees qualifying for work in the engineering and mechanical departments. Schools are provided for the children of Europeans, and the returns from those connected with the East Indian Railway show that the attendance is very fair.

74. The capital expenditure during the year ending 31st March, was about 4,126,667*l.*; 2,694,124*l.* being expended on state lines, and 1,432,543 on guaranteed lines. Of this amount, 2,207,119*l.* was disbursed in England, and 1,919,548*l.* in India. The total amount which has been expended on the railways is about 101,324,000*l.*, of which 92,786,426*l.* represents guaranteed, and 8,537,574*l.* State lines. There was a balance of 2,332,693*l.* to the credit of the Companies on the 1st April last. Of the whole 95,119,119*l.* raised by them, 82,627,185*l.* receives interest at the rate of 5 per cent., and the rest from 4 to 4¾ per cent. per annum.

75. The sums advanced by Government for guaranteed interest during the year 1874–75 amounted to 4,694,355*l.*, towards which about 3,562,000*l.* was contributed from the earnings of the railways after deducting the half surplus profits realized by three of them, leaving 1,132,355*l.* to be made up from the revenues of the country. This is about 305,000*l.* less than the previous year, an improvement in great measure due to the large traffic in grain during the threatened famine. The East Indian Railway alone earned 510,538*l.* more than the previous year; the Great Indian Peninsula also showed an increase of 134,145*l.*, the

Bombay, Baroda, and Central India of 48,248*l.*, and the Sinde, Punjab, and Delhi of 113,770*l.* The Madras on the contrary fell off 86,393*l.*, partly in consequence of the damage done to the line by the floods.

76. The total number of passengers carried in 1874 was 24,280,459 compared with 23,557,605 of 1873. The lowest class amounted to 23,556,218 or 97·01 per cent. of the whole; the second class to 543,800 or 2·21 per cent.; the first to 180,440 or ·78 per cent. The receipts from passengers were 2,183,015*l.*, of which 1,650,110*l.* or 75·58 per cent. was received from the lowest class, 102,990*l.* or 4·70 per cent. from the second, and 106,198*l.* or 4·81 per cent. from the first class.

77. The general merchandize carried amounted to 4,663,016 tons, exclusive of 33,608 conveyed by the Indus Flotilla, compared with 4,683,700 of the previous year. The minerals were 687,450 tons compared with 671,004. Of the whole amount of goods, 39 per cent. was conveyed on the main line of the East Indian Railway. There was a falling off in the general traffic of the country, but an increase on that line of 711,000 tons, and on the Punjab and Delhi of 130,560 tons, due to the demands for grain before referred to. The receipts from goods increased by 981,603*l.*, from 4,292,005*l.* in 1873 to 5,273,600*l.* in 1874.

78. The number of miles travelled by trains in 1874 was 18,475,322 compared with 15,650,597 of the previous year, and the ton mileage was 1,102,956,185 against 802,704,329.

79. Putting aside the cases of accidents arising from the running over of cattle and from minor causes, when no injury was done to passengers or stock, the number of accidents to trains amounted to 263. Of these, 68 were collisions, 103 were from vehicles getting off the lines, and 92 from fire. One passenger was killed and 43 injured from causes over which they had no control. The proportion of killed to the number who travelled was 1 to 24,500,000, or ·04 per million. The proportion injured was 1 to 571,000, or 1·75 per million. In addition to these, 22 were killed and 27 injured from causes arising from their own imprudence or misconduct.

80. The expenses of maintenance and working amounted to 3,682,601*l.* (exclusive of 73,646*l.* for the Indus Flotilla), being at the rate of 3·98*s.* per train mile compared with 4·46*s.* of the year 1873. The receipts per train mile came to 8·39*s.* The ratio of expenditure to gross receipts was on an average 48 per cent. There is a marked difference in the cost of doing the work on the various lines, partly due to their varying circumstances, but chiefly to the character of the management. A very careful and accurate comparison can be made between the six principal undertakings on this point by means of the tables prepared by Mr. A. M. Rendel, the consulting engineer for State railways, at this office, and to the East Indian Railway Company. The chief objects should be to carry the greatest amount of traffic at the lowest possible cost, and efforts in this direction are greatly aided by a careful analytical examination of results. We then have the particulars which serve as a guide for arriving at sound and economical principles of management. One unavoidable cause of expense on most of the lines is the high cost of fuel, and efforts are being made in all directions to increase the supply of native coal. There is good ground for expecting that fresh sources will soon be opened, and that the railways themselves will convey coal to distant parts at a charge which will enable it to compete with that imported from this country and Australia, and also with wood. The importance of the subject is illustrated by the fact that while the East Indian Railway Company obtained coal at an average cost of 24*s.* per ton at the points of consumption, the cost on the Madras and Bombay lines averaged from 58*s.* to 70*s.* per ton.

81. The traffic in future may be expected to be improved by the measures which have been taken by the Government of India and the Local Governments to supply, on a comprehensive scale, proper feeder roads for connecting the railways with the emporia of trade and the agricultural districts in their neighbourhood When these are executed, and when fuel at a moderate cost is available, all that will be required will be an intelligent and energetic management, an economical system of working, and a scale of rates and fares suitable to the condition of the people and the requirements of the country.

I have the honour to be,

My Lord Marquis,

Your lordship's very obedient humble servant,

JULAND DANVERS.

THE INDIAN RAILW

GUARANTEED

1. East Indian. 1,505¾ miles. (Calcutta to Allahabad, 420 miles; Delhi, 890 miles; and Southern Punjab, 195 miles; also the short line between Howrah and Hooghly, 5 miles, with a second branch to Seebpore, 2 miles.)

2. Great Indian Peninsula.
   1. The North-eastern line from Bombay to Jubbulpore, and from Bhosawul to Nagpore, 474 miles.
   2. The South-eastern line from Bombay to Kalliana, 33 miles.
   3. The Madras line from Bombay to Poona, 120 miles.
   4. The Southern Mahratta line from Poona to Raichore, 192 miles.
   5. The Madras line from Raichore to Wadi, 82 miles.
   6. The Madras line from Wadi to Beder, 30 miles.
   7. The Madras line from Beder to Hyderabad, 75 miles.
   8. The Madras line from Hyderabad to Secunderabad, 6 miles.
   9. The Madras line from Secunderabad to Kurnool, 114 miles.
   10. The Madras line from Kurnool to Dhone, 30 miles.
   11. The Madras line from Dhone to Gooty, 30 miles.
   12. The Madras line from Gooty to Penakonda, 70 miles.
   13. The Madras line from Penakonda to Dharmavaram, 30 miles.
   14. The Madras line from Dharmavaram to Bangalore, 70 miles.
   15. The Madras line from Bangalore to Jolarpettah, 38 miles.
   16. The Madras line from Jolarpettah to Arconum, 70 miles.
   17. The Madras line from Arconum to Madras, 70 miles.
   18. The Madras line from Arconum to Conjeveram, 40 miles.
   19. The Madras line from Conjeveram to Chingleput, 30 miles.
   20. The Madras line from Chingleput to Tambaram, 18 miles.
   21. The Madras line from Tambaram to Madras, 18 miles.
   22. The Madras line from Arconum to Wallajah Road, 40 miles.
   23. The Madras line from Wallajah Road to Trivatore, 30 miles.
   24. The Madras line from Trivatore to Jolarpettah, 30 miles.
   25. The Madras line from Jolarpettah to Salem, 70 miles.
   26. The Madras line from Salem to Erode, 60 miles.
   27. The Madras line from Erode to Coimbatore, 60 miles.
   28. The Madras line from Coimbatore to Pollachi, 30 miles.
   29. The Madras line from Pollachi to Palghaut, 30 miles.
   30. The Madras line from Palghaut to Shoranur, 30 miles.
   31. The Madras line from Shoranur to Calicut, 30 miles.
   32. The Madras line from Calicut to Cannanore, 70 miles.
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   34. The Madras line from Mangalore to Honawar, 70 miles.
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   44. The Madras line from Canacona to Cullem, 30 miles.
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   46. The Madras line from Pondicherry to Cuddalore, 30 miles.
   47. The Madras line from Cuddalore to Porto Novo, 30 miles.
   48. The Madras line from Porto Novo to Tanjore, 70 miles.
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3. Madras. 857¼ miles.
   1. South-western line to Beypore, 681 miles; and another to Ootacamund, 30 miles.
   2. North-western line to Arconum, 86 miles.
   3. North-western line to Raichore, 0 miles.
   4. Southern Mahratta line from Poona to Raichore, 192 miles.
   5. Madras line from Raichore to Wadi, 82 miles.
   6. Madras line from Wadi to Beder, 30 miles.
   7. Madras line from Beder to Hyderabad, 75 miles.
   8. Madras line from Hyderabad to Secunderabad, 6 miles.
   9. Madras line from Secunderabad to Kurnool, 114 miles.
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4. Bombay, Baroda, and Central India. Bombay to Ahmedabad, and Surat to Wattwa, 309¼ miles; with a branch from Anand to Dakore, 18 miles.

5. Sinde, Punjab, and Delhi. 674 miles.
   Delhi to Ferozepore and Umballa to the Punjab, and Kotree to Kotaghur in Sinde.

6. South Indian (late Great Southern of India and Carnatic, now amalgamated).
   Supposed to Erode junction, 169 miles completed. Extension in progress from Madras to Tanjore, 217 miles; and from Trichinopoly to Tuticorin, 215¼ miles.

7. Eastern Bengal. 156¾ miles. Calcutta to Goalundo.

8. Oude and Rohilkund.
   Juanpore to Rosenbad, 417 miles; Cawnpore to Lucknow, 47 miles; Sarsiginge to Byram Ghat, 22 miles; Chunbeana to Allyghur, 61 miles; being 240 miles open.

STATE LINES.

9. Calcutta and South Eastern. 29 miles.
   Calcutta to Canning, on the Mutla River.

10. Hulliehur. 27¼ miles. A branch from the East Indian Railway at Sulleehur to Moorshedabad.

11. Kosygunge. 7¼ miles. A branch from the Great Indian Peninsula Railway to Kosygunge.

12. Guzeerwuttee. 24 miles. A branch from the Great Indian Peninsula Railway to Guzeerwuttee.

13. Puttun. 32 miles.
   A branch from the Bombay, Baroda, and Central India Railway to the salt works on the Runn of Cutch.

14. Tirhoot. 52 miles. Changwa Ghat to Darbunga.

15. Hyderabad. (Nizam's Line.)
   Vadhi on the Great Indian Peninsula Railway to Hyderabad, 120 miles.

STATE LINES NOT COMPLETED.

16. Punjab Northern.
   Lahore to Peshawur, 220 miles. In progress as far as Attock, 175 miles.

17. Rajpootana.
   1. Agra to Jeypore and Ajmere, with a branch to Bandikui Line, 254 miles, of which 82 miles are opened, from Agra to Bhurtpore. 2. Delhi to Rewaree, and branch to Furrukhnuggur, 142 miles, of which 30½ miles are opened, to Rewaree and Furrukhnuggur. 3. Jodore to Beawerkund Ajmere, 450 miles.

18. Indus Valley.
   Kotree to Kotree, 493 miles. In progress.

19. Indore and Khandwah. (Hollar's Line.) 66 miles. In progress.

20. Wurtie Valley. 45 miles. Sanctioned from Wurtie to Warora. Opened from Wurtie, 18 miles.

21. Nagpore and Raipore. 121 miles. In progress.

22. Sarwar to Guddock. 322 miles. Surveyed, but in abeyance.

23. British Burmah.
   Rangoon to Prome, 161 miles. Works commenced.

24. Northern Bengal. From the Ganges near Kaukhola on the Eastern Bengal Railway, to Julpigoree and Darjeeling Road. Surveyed. Works commenced.

YAYS, 1875.

INES.

...; thence North-west to ...ssal to Jubbulpore, 226 ...om Burdwan and Loche... Kurhurbalee.
1,204¼ miles.
...a Bunder to Bhosawul ...ravel to Nagpore. 1. The ...e to Raichoor, which is ...

..., with a branch to Bangalore, ...mentioned to the foot of ...miles; also an extension ... 9 miles, surveying. 2. ...n junction with the Great ...ral India. ...to Bellary, 340 miles.

...ay to Wattwa, 309¼ ...ch from Anand ...ad to Dakore, 18 miles.

...674 miles.
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Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1875-76.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
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FOR HER MAJESTY'S STATIONERY OFFICE.

1876.

[C.—1584.] *Price* 1*s.* 9*d.*

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REPORT.

To the Most Honourable the MARQUIS of SALISBURY, Secretary of State for India.

MY LORD MARQUIS, India Office, June 1876.

I HAVE the honour to lay before your Lordship my Sixteenth Annual Report on Railways in India.

2. During the year 1875 a length of 261¼ miles was added to the system which was open at the beginning of the year, making the whole extent now completed 6,497¼ miles. Of these, 768 are constructed with a double, and 5,729¼ with a single line: 5,676 are on the 5′ 6″ gauge, 794 on the metre, and 27½ on a four feet gauge. General progress.

3. The section of the Punjab Northern metre gauge Railway, which has been opened, can only be regarded as a temporary line, as it will be given up when the one parallel to it on the 5′ 6″ gauge has been constructed. The works towards Peshawur at present terminate at Jhelum. Beyond that place the course of the line has not been determined.

4. The works on the Indus Valley Railway have been progressing, and it is expected that all the wells for the large bridge over the Sutlej between Moultan and Bahawalpur will be fixed in their places before the end of this year. The line to that river is well advanced, and will soon be completed on the 5′ 6″ gauge. The works on the southern section from Kotri upwards have also been pushed on, and it is expected that the line will be opened as far as the San River by the rains of this year.

5. Fair progress has been made on the Northern Bengal Railway towards Darjeeling. It is stated that the rails will be laid over one half of the length by the rains of this year, and that by June next year the line will be ready for opening.

6. With the exception of the South Indian Railway, the extent of the guaranteed undertakings has not been materially added to during the year. That railway has been prolonged to a length of 283 miles by the opening of a portion of its southern section from Trichinopoli to Tuticorin. The lower part of this division, vizt., that reaching from Madura to Tuticorin, was formally opened by His Royal Highness the Prince of Wales in December last; but public traffic did not commence over it until the 1st January.

7. The addition made to the Oudh and Rohilkund Railway, though short, is important, embracing as it does the bridge over the Ganges at Cawnpore, which connects the Oudh and Rohilkund system with the East Indian Railway. Before it was opened a complete battery of artillery, two squadrons of cavalry, together with camels and elephants, crossed and recrossed it, to test its strength.

8. With regard to the future, the extension of the Rajputana lines southward from Ajmere has been sanctioned so as to form junctions with the Indore line on the east, and the Bombay, Baroda, and Central India Railway at Ahmedabad on the west. A glance at the map will show the course of these projects. The latter, to which preference in point of time has been given, will be about 300 miles in length, and will proceed, in continuation of the Bombay and Baroda line, but on the metre gauge, from some point near Ahmedabad through Pahlanpore, east of Mount Aboo, and along the west side of the Aravalli range. The opening of the Suez Canal has produced a revolution in the trade between England and India, and this line has become of infinitely more importance than when Lord Dalhousie in 1853 described it as one of "the greatest political and commercial value, and calculated to afford the greatest amount of general advantage." It is estimated to cost Rs. 1.84.06.261, or about Rs. 61.300 per mile. The other line, 133 miles long, will be in continuation of the present metre gauge railway from Khundwa to Indore and will pass through Neemuch. Its cost is put down at Rs. 82.48.660, or Rs. 62.000 per mile. Extensions sanctioned.

9. Sanction has also been given to a railway from Nagpore, the present terminus of that branch of the Great Indian Peninsula Railway to Dongaghur, in the province of Chutteesgurh. The estimated cost is Rs. 83.74.598 and the length is 123 miles. The line will pass through a country rich in agricultural produce. With the increased facilities for transit which a railway affords, it is expected that a much larger traffic than now exists will soon follow the opening of the line. It will no doubt confer very great benefits on the central provinces.

10. The following table gives the length of each separate undertaking, and the extent opened :—

	Railway.	Gauge.	Length of Line sanctioned.	Length opened during 1875.	Total Length opened.	Portion laid with Double Line.	Length remaining to be finished.
Guaranteed.	East Indian — Main line	5′ 6″	1,280	—	1,280	414¾	—
	East Indian — Jabbalpur line	5′ 6″	223¾	—	223¾	—	—
	Great Indian Peninsula	5′ 6″	1,278¾	—	1,278¾	327	—
	Madras	5′ 6″	856¾	—	856¾	—	—
	Bombay, Baroda, and Central India	5′ 6″	408	—	408	21⅛	—
	Scind, Punjab, and Delhi	5′ 6″	663¾	—	663¾	4½	—
	South Indian	3′ 3⅜″	617¾	97½	283¼	—	334½
	Eastern Bengal	5′ 6″	159¾	—	157½	—	—
	Oudh and Rohilkund	5′ 6″	711	3	542¾	—	168¼
State.	Nalhati	4′ 0″	27½	—	27½	—	—
	Calcutta and South-eastern	5′ 6″	28	—	28	—	—
	Northern Bengal	3′ 3⅜″	358½	—	—	—	358½
	Punjab Northern	5′ 6″	267½	62 (Temporary Line.)	62	—	267½
	Indus Valley	5′ 6″	508	—	—	—	508
	Rajputana (Agra and Delhi to Nasirabad)	3′ 3⅜″	402	48⅓	379½	—	22½
	Neemuch (Indore to Neemuch)	3′ 3⅜″	302½	—	—	—	302½
	Indore to Khandwa (Holkar's)	3′ 3⅜″	85½	20¼	57	—	28½
	Patri branch of Bombay, Baroda, and Central India Railway	5′ 6″	22½	—	22½	—	—
	Wurdha Valley	5′ 6″	76	—	18	—	58
	Tirhut	3′ 3⅜″	93	—	44	—	49
	Rangoon and Irrawaddy Valley	3′ 3⅜″	371	—	—	—	371
	Sindia (Agra to Gwalior)	5′ 6″	72	—	—	—	72
	West Rajputana	3′ 3⅜″	314¾	—	—	—	314¾
	Nagpur and Chattisgarh	3′ 3⅜″	123½	—	—	—	123½
	BERAR.						
	Khamgaon	5′ 6″	7½	—	7½	—	—
	Amraoti	5′ 6″	5½	—	5½	—	—
	NIZAM'S GOVERNMENT.						
	Wadi to Hyderabad and Secunderabad	5′ 6″	121	—	121	—	—
	PROVINCIAL.						
	Muttra and Hathras	3′ 3⅜″	30	30	30	—	—
	Total		9,415¾	261¼	6,497¼	768	2,978¼

11. The following statement exhibits the annual progress made in the construction of railways since their commencement:—

Railways.	Length of Line open at the end of each Year.																					
	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
East Indian Railway (including Jabalpur).	—	37½	120½	120½	120½	141	284½	307½	563½	883½	937	1,105½	1,129½	1,120½	1,353	1,353	1,353	1,353	1,503½	1,503½	1,503½	1,503½	1,503½
Great Indian Peninsula.	21½	34½	50½	88½	88½	194½	245½	297½	437½	494½	553	585½	701½	815½	852	875½	872½	1,257½	1,271½	1,277½	1,278½	1,278½	1,278½
Madras - -	—	—	—	65½	80½	95	95	136	297½	447	447	571	611	645	645	677½	707½	782½	831½	831½	857½	857½	856½
Bombay, Baroda, & Central India.	—	—	—	—	—	—	—	35	132	185	185	305½	305½	305½	305½	305½	307½	307½	349½	388	389½	406½	408
Scind - -	—	—	—	—	—	—	—	—	105½	105½	105½	105½	105½	108½	108½	108½	108½	108½	108½	105½	105½	105½	105½
Punjab - -	—	—	—	—	—	—	—	—	—	32	45	45	253	253	246	246	246	553½	553½	553½	553½	553½	553½
Delhi - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	53	270						
Great Southern of India, now South Indian.	—	—	—	—	—	—	—	—	49	79	79	79	79	127	144	168	168	168	168	168	168	* 182½	293½
Carnatic, now South Indian.	—	—	—	—	—	—	—	—	—	—	—	—	18½	18½	18½	18½	18½	18½	18½	18½	18½		
Eastern Bengal -	—	—	—	—	—	—	—	—	—	110	110	110	110	110	113½	113½	112	112	136½	156½	158½	158½	157½
Oudh and Rohilkund.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	42	42	42	42	294	455	539½	542½
Calcutta & South-eastern.	—	—	—	—	—	—	—	—	15	28	28	28	28	28	28	28	28	28	28	28	28	28	28
Punjab Northern	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	62†
Nalhati - -	—	—	—	—	—	—	—	—	—	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½
Khamgaon - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7½	7½	7½	7½	7½	7½
Amraoti - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5½	5½	5½	5½	5½
Rajputana -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92½	292	379½
Holkar - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	57
Patri - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22½	22½	22½
Wurdha Valley -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18	18
Tirhut - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	44
Nizam's - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Muttra & Hathras	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30
Total -	21½	72	171	274½	289½	430½	624½	836½	1,581½	2,351½	2,516½	2,962½	3,368½	3,568	3,936½	4,010½	4,261	4,766½	5,072	5,365½	5,671½	6,201	6 497½

* The Great Southern of India Railway has, on re-measurement, been found to be 167 miles only.

† Temporary Line.

Communication with Assam and Cachar.

12. There are two provinces in British territory which are still beyond the reach of railway influence, but which might with the help of the navigable river running through them, be brought, without much expense, into regular communication by steam with the rest of India. I mean Assam and Cachar. The Brahmaputra passes the terminus of the Eastern Bengal Railway in its course from Delrugan, the capital of Assam, which, nevertheless, is as distant, in point of time, from Calcutta as Bombay is from London. What is wanted is a regular and expeditious line of steamers, to work in communication with the railway. The service is now tedious and unreliable; and this discourages the outlay of capital in a fertile province where tea can be successfully grown, and where there is room for great agricultural and mineral development.

Prince of Wales' visit.

13. The principal event of the year requires a passing notice in connection with its effect upon the railways. The greater part of the travels in India of His Royal Highness the Prince of Wales was necessarily performed on the railways, and we may rejoice that they contributed to the success of this brilliant and beneficial Royal progress. When at Bombay in November, His Royal Highness went by the Great Indian Peninsula Railway to Poona and back, and to Baroda and Mehmadabad on the Bombay, Baroda, and Central India Railway. In December, after visiting Ceylon, he landed at Tuticorin, travelled from thence to Madura and Trichinopoli and formally opened that portion of the South Indian line. From Trichinopoli he proceeded by Erode to Madras on the Madras Railway. In January His Royal Highness travelled from Calcutta to the station on the East Indian Railway opposite Benares, crossed the River Ganges at that place, and went by the Oudh and Rohilkund Railway to Lucknow and Cawnpore. From thence he proceeded to Delhi by the East Indian Railway, and on to Lahore by the Scind, Punjab, and Delhi Railway. When there he went by the Punjab Northern State Railway to Wazirabad and back, performing the ceremony of driving the last rivet for the completion of the bridge over the Chenab River. Returning to Agra His Royal Highness went to Bhurtpore and back, and to Jeypore and back, in February, by the Rajpootana State Railway. Proceeding from Agra

to Alligurh, he again travelled on the Oudh and Rohilkund Railway to Moradabad, on his way to the Terai and Nepal, and came back by Bareilly to Cawnpore in March. From thence he returned by the East Indian and Great Indian Peninsula Railways to Bombay, viâ Allahabad and Jabbalpore, stopping on his way at Khundwah, and travelling over the open line of the Holkar State Railway, on his way to Indore.

14. His Royal Highness on several occasions personally expressed his satisfaction with the arrangements. After his departure, the Government of India reviewed the railway service thus performed, and concluded their observations with the following resolution :—

"Taking into consideration the length of the journeys, aggregating in all 4,829 miles, performed by His Royal Highness the Prince of Wales on Indian Railways, and the difficulties with which the railway authorities had to contend, consequent on an augmented traffic at a time when efforts were needed to ensure the safety of the Royal train, and the personal convenience and comfort of His Royal Highness the Prince of Wales, the Governor-General in Council is pleased to record his high appreciation of the services rendered by the railway officials of all ranks.

"This good result has been attained both by the well considered arrangements and comprehensive directions of those in chief authority and by the loyal exertions of all the members of the different railway departments."

15. Among the benefits arising from the visit to India of His Royal Highness the stimulus which was given to travelling on the railways to all classes of natives, and the direct pecuniary return derived from the movement of large bodies of people from one place to another to greet His Royal Highness, must not be overlooked.

Flood damages.

16. The rainy season of 1875 did not pass without damage being inflicted on railway works by the floods. The large bridges on the Northern lines remained unaffected, showing, it is hoped, that the protective works had rendered them safe; but both on the Great Indian Peninsula Railway, near Jabalpur (between Chhindwara and Narsinghpur), and on the Punjab and Delhi line (between Amritsir and Jullunder), portions of the line, including culverts and small bridges, were washed away, causing interruptions to the traffic and considerable expense in making the necessary repairs and alterations.

17. The most formidable injury was sustained by the Eastern Bengal Railway, at its northern terminus. It will be recollected that fears were entertained for the safety of Goalundo, in consequence of the threatened encroachments of the River Ganges, and that measures had been taken at a large cost to protect the station by means of a spur which had been thrown out into the river 500 feet. The effects of this work upon the floods of 1874 were considered satisfactory, and it was expected that, by making certain alterations in its shape, and by giving it greater strength, the eroding action of the two great rivers which meet at this point would be overcome or diverted. Early in August last, however, all these hopes were destroyed. "Owing to heavy and prolonged rains thoroughout the "upper sources of the Ganges and its tributaries, that river rose to an unprece-"dented height, and began rapidly to cut into the right bank above Goalundo, "and to cause grave apprehension of the early destruction of the works there."* On the 17th August the demolition of the station was ordered in anticipation of the early collapse of the protective works. The buildings were accordingly removed, and the inhabitants sent further away from the river. This was done just in time, for on the 23rd the protective works were cut through by the water; and five days after the spur had disappeared, the land on which the station stood being completely washed away. When I was there in January, the rivers were, of course, almost at their lowest. About half a mile from the bank, what appeared a small rock rising out of the water could be seen, and this was the remains of the spur. Between it and the shore, the space on which the station stood last year, the depth of the river was about 30 feet, and steamers were loading and unloading within a couple of yards of the newly formed river bank.

18. On the Bombay, Baroda, and Central India Railway, the large bridge over the Saburmuttee River, near Ahmedabad, 1,125 feet long, and consisting of 18 spans, was washed away by the floods of last season. It has already been replaced by one on a higher level, which was commenced in December, and opened for traffic on the 19th May. This expeditious completion of so important a work reflects great credit upon the engineering department of the railway.

* Despatch from Government of India, 2nd September 1875.

PROCEEDINGS IN THIS COUNTRY.

19. The proceedings in this country connected with the railways have been of the usual kind. The following tables exhibit the shipping operations. It will be seen that 288,186 tons of materials were despatched during the year, of which 124,192 consisted of fuel. During the 25 years since the railways were commenced, 5,181,721 tons of goods, of the value of 34,660,460*l.* have been shipped in 8,495 ships, 75 of which have been wrecked on the voyage. Last year there was no casualty.

SHIPPING OPERATIONS, exclusive of Fuel, during 1875 on Account of Guaranteed and State Railways

Railway.	Number of Ships employed in 1875.	Number of Tons of Goods shipped in 1875.	Value of Goods shipped in 1875.	Amount paid for Freight and Insurance in 1875.	Average Rate of Freight and Insurance per Ton.
		Tons.	£	£	£ s. d.
East Indian - - -	45	9,745	104,267	10,532	1 1 7
Great Indian Peninsula - -	43	7,103	85,192	13,558	1 18 2
Madras - - - -	37	12,905	71,392	18,610	1 8 10
Bombay, Baroda, and Central India	31	1,168	17,002	2,523	2 3 2
Scinde, Punjab, and Delhi -	10	1,796	26,561	4,212	2 6 10
South Indian - - -	42	46,359	436,412	63,003	1 7 2
Eastern Bengal - - -	13	4,821	21,119	7,078	1 9 4
Oude and Rohilkund - -	27	1,320	32,040	2,272	1 14 5
State Railways - - -	173	78,980	608,453	97,841	1 4 9
Total - - -	421	163,997	1,402,438	219,629	1 6 9

AMOUNT and COST of COAL and other FUEL sent out from this Country in 1875.

Railway Company.	Number of Tons supplied from England.			Total original Cost.			Sum paid for Freight and Insurance.	Average Cost of each Ton when bought in England.			Average Cost of each Ton delivered in India.		
	Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.		Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.
				£	£	£	£	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
East Indian -	—	601	—	1,723	—	—	—	—	—	—	—	57 4	—
Great Indian Peninsula -	82,532	—	—	57,711	—	—	94,835	14 0	—	—	36 11½	—	—
Madras - -	4,799	3,014	2,907	3,432	2,563	2,125	13,989	14 3	17 0	14 7	37 6	47 0	41 5
Bombay, Baroda, & Central India	17,233	—	3,066	29,996	—	6,132	Included in price.	34 10	—	40 0	—	—	—
Scinde, Punjab, and Delhi -	4,080	173	—	8,044	790	—	—	39 5	—	—	39 3	91 4	—
South Indian -	5,192	394	—	3,452	384	—	5,822	13 3	20 0	—	35 8	48 7	—
Eastern Bengal -	201	—	—	201	—	—	126	20 0	—	—	32 6	—	—
Totals -	114,037	4,182	5,973	104,559	3,737	8,257	—	—	—	—	—	—	—

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.	Number of Ships lost.	Number of Tons of Goods shipped.	Amount paid in England for Goods shipped.
				£
Up to end of 1860 - - -	2,605	39	2,094,686	10,431,976
In 1861 - - - -	407	—	181,621	1,669,443
„ 1862 - - - -	280	1	138,013	1,487,582
„ 1863 - - - -	279	2	166,840	1,285,464
„ 1864 - - - -	233	—	102,318	1,018,164
„ 1865 - - - -	442	2	199,157	1,729,543
„ 1866 - - - -	581	7	312,227	2,527,757
„ 1867 - - - -	512	5	333,329	3,052,652
„ 1868 - - - -	364	3	188,858	1,849,554
„ 1869 - - - -	455	1	211,750	1,432,784
„ 1870 - - - -	461	1	263,449	1,688,209
„ 1871 - - - -	307	6	168,049	707,765
„ 1872 - - - -	318	1	66,534	655,822
„ 1873 - - - -	404	2	201,590	1,561,602
„ 1874 - - - -	426	5	265,114	2,042,136
„ 1875 - - - -	421	—	288,186	1,518,991
Total - -	8,495	75	5,181,724	34,659,444

20. The proprietors have increased in number from 62,300 to 62,608. The insignificant number of those who held stock or shares in India has become still less: the Europeans being reduced from 448 to 407, and the natives from 416 to 390. The proportion of stock held in India is 1·56 per cent. of the whole.

Railway.	Number of Shareholders on 31st December 1875.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1875.
	Registered in England.			In India.					
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.	Bonds.	Stock.	
East Indian - - -	7,235	8,516	15,751	123	155	278	625	865	17,519
Great Indian Peninsula -	5,553	7,574	13,127	112	134	246	534	1,462	15,369
Madras - - -	2,991	4,262	7,253	—	—	—	181	—	7,434
Bombay, Baroda, and Central India -	2,460	3,801	6,261	10	40	50	*52	—	6,363
Scinde, Punjab, and Delhi - - -	3,410	5,340	8,750	71	13	84	—	—	8,834
South Indian - -	921	1,449	2,370	—	—	—	—	132	2,502
Eastern Bengal - -	615	1,023	1,638	22	24	46	26	199	1,909
Oude and Rohilkund -	1,069	1,377	2,446	69	24	93	—	139	2,678
Total - -	24,254	33,342	57,596	407	390	797	1,418	2,797	62,608

* An allotment of 200,000*l.* is represented by one of this number.

NUMBER of LOCOMOTIVES and VEHICLES owned by the GUARANTEED RAILWAY COMPANIES.

Railway Company.	Locomotives.			Passenger Carriages.		Goods Trucks and Waggons.		Total Number of Vehicles on 31st December 1875.
	Former Number.	Added or Withdrawn in 1875	Total Number, 31st Dec. 1875.	Former Number.	Added in 1875.	Former Number.	Added or Deducted in 1875.	
East Indian - -	518	3	515	924	30	6,664	—	7,618
Great Indian Peninsula -	345	—	345	1,309	3	6,684	3	7,993
Madras - - -	126	2	128	383	—	3,200	5	3,588
Bombay, Baroda, and Central India - - -	85	—	85	233	62	2,808	69	3,034
Scinde, Punjab, and Delhi -	156	—	156	509	—	2,959	36	3,504
South Indian - -	26	35	60	91	135	373	563	1,162
Eastern Bengal - -	43	—	43	158	9	705	2	874
Oude and Rohilkund -	62	—	62	243	79	631	456	1,409

PERSONAL INSPECTION.

Personal visit to India.

21. Since my last Report was written I have, with your Lordship's permission, personally visited all the railways in India, and have thus had the opportunity of witnessing the work they are doing and of judging, better than I could before, of the work which they may be expected to perform. I had the advantage of travelling, during the greater part of my tour, with Mr. Rendel, the consulting engineer to this Office and to the East Indian Railway Company, who had been twice before to India and who, on this occasion, had been deputed by his Board to inspect that line and to report on several matters connected with its condition and working.

22. Wherever we went we received every possible assistance and the greatest courtesy, both from the officers of Government and of the Companies, whether while pursuing our journey or in prosecuting our enquiries.

23. One change which has been produced in India by steam power cannot perhaps be better illustrated than by the fact that within the time which forty years ago it would have taken to communicate by letter between London and Calcutta we were enabled to go to India and back and to traverse the length and breadth of the land, from Tuticorin and Beypore in the south to Multan and Jhelum in the north; visiting, on our way, most of the important cities, including Madura, Trichinopoli, Bangalore, Hyderabad, Poonah, Ahmedabad, Baroda, Jabalpur, Benares, Allahabad, Cawnpur, Lucknow, Agra, Delhi, Ajmere, and Lahore; remaining several days at Calcutta, Madras, and Bombay; stopping to view the new and rising industries of the country, such as the coal mines of Wurrora, Mopani, and Kurhurballi, the iron works of Raneegunge, and the factories at Bombay, Surat, Broach, and Calcutta; and mounting several hill stations and sanatoriums.

Value of railways.

24. Speedy communication is, however, a small part of the work which is being accomplished by railways. They are producing a most important and beneficial influence over the moral and material interests of the people: and they are furnishing those who are responsible for the government of the country, with the most effectual means of establishing peace and security. On political and strategic as well as on social and commercial grounds their extension therefore is greatly to be desired. But no extensive ramification of the railway system can be successfully carried out without the exercise of the utmost economy and circumspection. The lines must be constructed at the lowest possible cost and selected and laid out with the greatest judgment.

Condition of existing lines.

25. With regard to the existing lines, we found, generally, that they were in good condition. Here and there portions had been allowed to fall below a high standard of efficiency, but the permanent way was, as a rule, in proper order and the work of maintenance well attended to. Some lines looked better kept and neater than others, and this was, to a certain extent, due to the materials most suitable for ballast being ready at hand. The Madras Railway especially, with its light sand roadway and iron sleepers, was as trim as the drive in a gentleman's park in England. In carrying out so extensive a system as that which now exists, it could hardly have been expected that mistakes would not have been made, and failures would not have taken place, but those which have occurred are, for the most part, the mistakes and failures naturally arising from inexperience and imperfect data. Alignments, in some cases, might have been better, and the works are in some places unnecessarily massive and expensive. In others sufficient water way was not provided; bridges have been insecurely built and their foundations have not only been shaken but undermined by the tremendous force of the floods. These, however, are mostly errors inseparable from vast operations of a novel character in an unknown country. Taking the railway system of India as a whole it cannot but be regarded as a triumph of human industry and skill.

Work done by the civil engineer in India.

26. And this leads me to dwell for a moment on the character of the work which has been done in India by the Civil Engineer. He had to contend against the forces of nature to a far greater extent than is the case in this island. He had to overcome the difficulties which the gigantic features of the country placed in his way: he had often only poor materials and inferior labour at his command, and he had to meet the dangers of exposure to a burning sun by day and malarious vapours by night. To his skill and professional knowledge he accordingly had to bring more than ordinary courage and endurance. Many have broken down in the attempt, but their places have been immediately filled by others, and the result is exhibited in the thousands of miles of railway which

thread their way over mountain passes, cut through thick jungle and span huge and uncertain rivers. Nor is this energy confined to Engineers; in all departments, and in every branch of the service, one cannot but observe a zeal and activity among the officials, which betokens a deep interest in their work.

Stations. 27. The station accommodation is generally good, sometimes perhaps too good, but never unnecessarily spacious. In saying this, I am obliged to except the terminal arrangements of the East Indian Railway at Calcutta, and of the Great Indian Peninsula Railway at Bombay, at both of which stations the accommodation is inadequate and the buildings unworthy of those large concerns. The former is now being put in better order; and the latter is about to be improved by the erection, for the first time, of suitable covered ways and offices. On the lines in Upper India the stations are so constructed that they may be easily fortified in case of need. They are built of brick or stone, and are covered with iron, stone, or tiles, according as materials are available in the districts where they are situated. The stations of the Great Indian Peninsula Railway are especially noted for the tasty manner in which they are laid out. The servants of the company are encouraged to cultivate flower gardens, and they have succeeded admirably. The luxuriant vegetation of the country is also turned to practical account by training creepers, so as to form the sides of sheds many feet high, which are thus left airy, and at the same time protected from the sun and rain.

Locomotive stock. 28. The locomotive stock provided is, in most cases, excessive; while the power of the engines is in many cases below that which present experience would recommend. The adhesion in India is usually good, and it seems to be generally held that a larger cylinder than we are accustomed to use in this country may be utilized there: also that good types for India would be for passenger and mixed trains four-wheel coupled engines with 5′ 6″ wheels and cylinders 17″ diameter and 24″ stroke, and for goods six-wheel coupled with cylinders 17″×24″, the wheels being 4′ 6″ in diameter for goods trains, each pair of wheels having about 11 tons weight upon them.

Metre gauge lines. 29. We travelled over the whole open length of the Rajpootana, and of the South Indian, metre gauge lines, and found them as smooth and as steady as the broad gauge. The carriage accommodation, though necessarily less spacious, was sufficiently commodious, and there was no perceptible difference in the comfort and ease of travelling. This description of railway has not yet been long enough open to enable a reliable conclusion to be arrived at with regard to the cost of working it as compared with the broader gauge lines. The expense of transferring goods from one line to another at the points of junction may be calculated at from $1\frac{1}{2}d.$ to $2d.$ per ton. The contract rate for performing this work at Delhi, where the Rajputana line meets the East Indian and Punjab and Delhi railways, has been Rs. 2 8a. per 1,000 maunds. Inconvenience, to a certain extent, and diminished facilities of transport must of course occur where there is a break of gauge, and it becomes a matter of judgment where, or where not, a break shall be permitted. There are many districts calling out for the means of communication, where even common metalled roads do not now exist, and where a very light and cheap railway would, for generations, be sufficient for the traffic which is likely to come upon it. "If," as Sir John Strachey says, "we can make railways "which are self supporting, it is from every point of view advantageous to substitute "them for metalled roads. We get far better means of communication: we provide "admirable feeders to the great trunk lines of railway, and thereby not only benefit "the country, but the financial interests of the Imperial Government, and we at "the same time relieve the provincial revenues from a serious burden." The kind of line thus indicated has been laid down between Hathras, a station on the East Indian Railway, and Muttra, on the river Jumna, mainly on the metalled road. It is about 30 miles in length, and has cost Rs. 9.00.000, including rolling stock and stations. Of this Rs. 6.00.000 was provided from provincial revenues, and Rs. 3.00.000 by local subscriptions, chiefly from natives, under a guarantee of 4 per cent. from the local government, and upon the understanding that any excess of receipts beyond this rate shall be divided between the Government and the subscribers.

Management. 30. I need hardly remark that the railways command an enormous power over the interests of the districts through which they pass. It is a power which should be used in a very judicious, enlightened, and I would add enterprising, spirit, not calculating only on the existing condition of things, but taking into account the capabilities of the country, the prospects of future development, and the growing wants and improving habits of the people. To obtain the highest return from the

transport of a limited amount of goods should not be so much the object of railway managers as the conveyance of a large quantity with a comparatively small profit upon each unit. In some of the fertile valleys through which we passed, the surface of the ground, unbroken by hedge, wall, or fence of any kind, presented, as far as the eye could reach, from the railway embankment, one large sea of rice or corn. In other parts the railway traverses tracts of country where the cultivable area might be increased, and where an external trade might be established, if only a market were accessible for the produce of the land. Opportunities, therefore, in one shape or another, are not wanting of obtaining traffic; but to make railways as serviceable and as profitable as they should be, they must be brought within reach of the people, who, though poor, tenacious, and prejudiced soon become alive to their value, and are quite ready to use them in every possible way, whether for carrying themselves or their goods. The passenger rates have, on some lines, been already reduced, for the lowest class, as far as can be expected. The charges are from a farthing to a third of a penny per mile. The value attached by natives to cheap travelling may be gathered from the fact that they prefer giving up their caste to parting with their pence. The high caste will travel with his lower caste brother rather than pay a higher fare. As regards goods, the natives who engage in trade are keen observers and accurate calculators in matters of business, and command, by some means or other, very accurate information as to prices which prevail in the various markets of the world. The trade up country would seem, at present, to be in the hands of a few. One effect of administering the railways in a broad and liberal spirit would probably be to introduce a wider competition, and to encourage a more general employment of capital. The policy, therefore, to be followed, both in the interests of railway proprietors and of the public, is low rates and simplicity of management; avoiding as much as possible special charges and exceptional arrangements (which only confuse and discourage the uninitiated and the small dealer), and showing a readiness to consider the means, the wants, and usages of the people. It is hardly necessary to add that economy is at the bottom of all reforms and improvements in the direction above indicated. For the rates paid by the customer must always in some degree correspond with the cost of transportation. The more saving there is in managing the traffic, the greater margin will there be for reduction of charges, and thus will a greater stimulus be given to business, and a greater chance of increased profits.

Rates and fares.

31. It may be said that high and low rates are simply comparative terms which convey no definite meaning. As applied to the circumstances of India, I would describe rates as "high" when they fail to secure the conveyance of the produce of the districts through which they pass or of the goods imported into those districts; when they prohibit or unduly check traffic, and thus restrict trade; when they discourage extended production; and when they raise the cost of conveyance by diminishing the use of the carrying stock. This has been too much the case hitherto; and therefore railways have not yet conferred upon the country the full benefits, nor yielded the profits, which they might have done. The smallest addition to the cost of an article will very often turn the scale as to whether it shall find a favourable market or not. The expense of carriage has necessarily a very important influence on the price at which it can be delivered. The lower the cost of production, the greater is the effect of that influence. This applies especially to corn and other grain, salt, coal, cotton, and almost all the staple commodities of the country. It is very desirable, therefore, to be able to charge such moderate rates as will conduce to the conveyance of large quantities with a small profit on each unit, and thus promote the movement of goods from one part of the country to the other as well as their exportation to foreign lands. As an illustration, I would mention that, at the present moment, in consequence of the low price of wheat* in the provinces of Oude and Rohilkund, and the facilities which the railway gives for conveying it to the port of Calcutta, a larger quantity is being sent to this country and other parts of Europe than has, I believe, ever before been known. In round numbers its cost, including expenses of conveyance, both by land and sea, would on arrival in London be from 38 to 40 shillings per quarter. The price here is about 43*s.* or 44*s.* Another advantage arising from low rates is worth adverting to at the present moment. By helping to increase the export of Indian products, they would proportionately promote the demand for silver in India and assist to raise the rate of exchange.

* 16*s.* per quarter.

32. The Oudh and Rohilkund Company when they commenced their traffic arrangements introduced the cheap and simple system; and on other lines improvements have lately been made, both as regards charges and general management, the results of which will, I trust, encourage a further advance in the same direction.

33. As regards the charges in force on the railway just mentioned, they represent, the Company's Agent says, "the freight which the traffic offered can bear." Reduced rates came into operation on the 1st January, and Colonel Jenkins goes on to observe, "it may be confidently asserted that a large increase of "traffic was coeval with their introduction and has continued up to the present "time." On the Eastern Bengal Railway lower rates for salt were introduced early in the year. An immediate increase of traffic took place, and has been fully sustained ever since: the result being an additional quantity of 66,840 maunds compared with the previous year, equivalent to 101 per cent., the reduction in the charge for carriage having been only 33 per cent.

34. The East Indian Railway Board have not been backward in adopting a liberal scale of charges,* and in a recent letter to their agent, the directors expressed their opinion that "it is now clear that the rates charged for the great staples of "produce must be fixed at the lowest possible point," to secure the proper development of the traffic of the country. The Great Indian Peninsula Railway Board have also given practical effect to this doctrine by diminishing rates on grain, and by sanctioning other reductions which, besides simplifying the system of charge, will produce a relief to their customers of about 80,000*l.*, calculated on the revenue returns of the previous year. The Bombay, Baroda, and Central India, and the South Indian Railway Companies have also adopted lower scales of rates for passengers and certain goods. It would thus appear that the conviction is gaining ground that a liberal policy, as regards rates, is the best.

Treatment of Native passengers.

35. Everywhere we found the railway authorities very desirous of securing the comfort and proper treatment of the native travellers. Strict orders are issued for the purpose, as well as for supplying their necessary wants during the journey. Notwithstanding which, crowding and rough handling may sometimes be witnessed. The former is often unavoidable, and is frequently aggravated by the quantity of bundles, to say nothing of children, which the women carry about with them, and which they have to squeeze hurriedly through the small opening of a third-class carriage door. The latter appears to be worse than it really is through the excited and violent gesticulations of the native police and porters. In every train there are separate compartments for females; but men and women frequently travel together. The station arrangements were generally suitable and a good supply of filtered water was always ready. Tables of rates are published in various languages and put up at the booking offices.

European passengers.

36. The accommodation for European travellers is as good as can be expected, and greatly superior to that provided on continental lines. The carriages are commodious and comfortable, and every effort is used to make travelling endurable in the hot season by means of punkahs and other cooling apparatus. But it is difficult to succeed. The heat and dust are very oppressive. The substitution of railway for road travelling must, however, have been a prodigious boon to the European: and those who now reside near the railway must, compared with those who live at a distance from it, experience a feeling of security from the knowledge that in case of illness a change may be at once obtained by stepping into the next train. In former days many an invalid ordered to England who had to proceed several hundred miles from the interior to the port of embarkation must have sunk under the fatigue and exposure to which he was subjected. Frequently were graves pointed out to us on the wayside, where the stricken traveller, overcome by sickness and exhaustion, had found his last resting place. Sometimes it was in consecrated ground, but oftener not. It is difficult to understand Indian distances until they are felt. In those days, weeks were occupied in traversing the plains between the military cantonment or civil station in Central or Upper India and the seaport or the nearest hill sanatorium. Even now, when we see on a map two places on opposite sides of the continent linked together by the railroad, we are apt to forget that two or three nights as well as days are spent on the journey. And when we heard of

Distances in India.

* Colonel Hancock, R.E., the Consulting Engineer and Under-Secretary to the Bombay Government, in his minute on the relative working of the East Indian Railway and Great Indian Peninsula Railway, points out as an advantage enjoyed by the former over the latter "that low goods rates have been forced on the East Indian Railway by water competition and that its traffic has prospered in consequence."

grain being carried across the river Ganges at Patna to the opposite side by ferry boats, few of us knew that these boats had to go round a distance of thirty miles.

Arrangements for punctuality and safety.

37. The rules in force for securing regularity and safety generally embrace the "line clear" system, by which no train is allowed to leave one station until a message has been received from the next that the train telegraphed as having been last despatched from the former has passed through. The block system is being introduced on the lines where the traffic is large, and this will gradually be extended as necessity arises. The speed of a mail train averages about 30, of an ordinary train 18 to 20 miles an hour. The signalling is much the same as in this country. Fencing, as a rule, is required and is undoubtedly necessary in the neighbourhood of towns and villages; but it is difficult to construct a fence which will effectually keep out animals. In districts with long lengths of straight level line, and where trains pass at a moderate speed, many experienced persons think fencing to be unnecessary. During my journeyings, which extended over 13,000 miles, and took place, sometimes without much notice, at all times of the night and day, we only once came in contact with any obstruction, if a snake which was cut in half and a monkey's tail which suffered the same fate may be excepted. A native Inspector was using a trolly for repairing the line, and while on a curve, had failed to give the proper signals. The trolly was run over and smashed to pieces by our train, which was a special one, but the man had thrown himself off, and suffered no personal injury.

European mechanics.

38. At certain places on most of the railways, where more Europeans than usual of the mechanical class are brought together, consisting principally of drivers, and those who belong to the locomotive workshops, dwellings are provided which collectively form a kind of railway town. On approaching these places they present quite an imposing appearance. Large square brick houses are seen placed in compounds or gardens bearing a resemblance to the villas and mansions occupied by the wealthy citizens of a London suburb. A closer inspection, however, shows that this impression is deceptive. The grand appearance is produced by the broad verandah, so necessary to an Indian dwelling, and by the double story which was, until lately, rarely seen in India. Each house contains perhaps eight rooms, and these are occupied by several men, some with families, who pay at the rate of from Rs. 9 to Rs. 10 per mensem for each room. In connection with this colony there are generally institutes, libraries, swimming baths, billiard rooms, churches, schools, co-operative stores, hospitals, recreation grounds,—everything in fact that can be thought of to afford occupation for the mind and body. It is very desirable to attend to the health, comfort, and amusement of European mechanics in India as well as to the education of their children. There are great temptations to indulgence and excess, and it is obviously expedient to secure well behaved, steady, and intelligent European communities of this class in the heart of India. This is now the case, and at several stations well disciplined and efficient corps of volunteers have been formed by the railway servants.

Native servants.

39. But while Europeans are employed as superintendents, locomotive foremen, drivers, and so forth, the work in the shops is principally performed by natives, whose wages are in about the proportion of annas to rupees compared with Europeans. The management and economy observable in these large workshops reflects great credit on the officers of the locomotive department of the railways, who have established them and who have trained the natives to their present state of efficiency. The swarthy arms of stalwart natives may be seen dealing blows worthy of English strikers at the forge, and the nimble fingers of mere children, directed by sharp eyes, may be seen manipulating minute parts of machinery. Natives are also being gradually trained to manage the locomotive. Many of them fill the position of station-masters, clerks, and assistants to traffic managers, as well as accountants and guards. In order to ensure the efficient discharge of their duties by the railway employés, whether European or native, it is necessary that they should be able to understand each other clearly. The European officers and servants should accordingly enable themselves to communicate with the natives under them in their own language, the acquisition of which colloquially should be a requisite qualification for promotion. Encouragement is now given by the grant of bonuses to those who pass an examination in a native language.

Intercourse between officers in different parts of India.

40. Advantage would, I think, be gained by more frequent intercourse between the chief officers of the various undertakings. Different circumstances bring out different methods, and while a certain uniformity of management is applied to

the railways, it is easy to conceive that, in a country like India, when working out details, the practices in the south may vary from those in the north. Useful hints might be gained from either, but there has hitherto been no systematic attempt to exchange ideas or to communicate information. In my rapid tour I had the opportunity of observing that, on some lines, a better plan was followed than on others with regard to matters applicable to all. Much more would Agents, Traffic Managers, Locomotive Superintendents, and Engineers of long standing in their several departments detect improvements or defects and be able to interchange useful experience and arrive at satisfactory conclusions.

41. As an illustration of the useful effects of this kind of intercourse, I may mention that the Bombay Government was good enough to comply with my suggestion that Colonel White, R.E., the Deputy Consulting Engineer at that Presidency, should accompany me over the Oude and Rohilkund system. Colonel White had been many years in the Railway Department at Bombay, but he had never been further north by railway than Jabbalpur, where the Great Indian Peninsula joins the East Indian Railway. He was now able to compare notes between the lines he was familiar with in the Bombay Presidency and those in Oude and Rohilkund. The results of his observations have been given in an interesting report, which describes the mode in which the railway is managed, and directs attention to various points which he considered worthy of imitation on other lines. Referring to the traffic department of that railway, he says :—

"There are only two classes of carriages, upper and lower. In the upper, or first class, the fare is only nine pies per mile against 15 to 18 pies on other lines; and a reserved compartment, with washing arrangements complete, can be procured for three annas a mile; the charge for this on the Great Indian Peninsula is six annas.

The Oudh and Rohilkund Railway.

"In the lower class the fare is two pies, and for those who wish to be exclusive, reserved accommodation is procurable for three pies, or a whole bench can be reserved for nine pies: and there are in every train two compartments reserved for poor Europeans or Eurasians who choose to pay the higher three pie fare. On the Bombay lines there is no reserved accommodation in the third-class for Europeans only, and to give such accommodation would entail half a third-class carriage being given up for that purpose; but the Oude and Rohilkund carriages being all built in compartments, the matter is very easily arranged.

"A lower class carriage of six compartments is also reserved for females, but it is optional with them to use this carriage or not; on the Bombay lines the women are forced to travel separately.

"The lower class carriages give almost the same sitting accommodation as the second class on other lines, and in exterior appearance are quite equal to them, the seats are 16 inches wide, with a space between them of 19 inches.

"Speeds, are low, 15 miles an hour, including stoppages, but excepting this there can be no doubt that the Oude and Rohilkund treat their passengers more liberally than any other Indian line; fares are very low and accommodation is good; as far as I could learn, their system meets the wants of the travelling community very well."

"All the passenger service is given in mixed trains: and passengers travelling by these trains can book their goods at luggage rates, 27 pies a ton, and carry them off with them when they reach their destination. This suits the native mind, which is naturally suspicious, and for the mere advantage of travelling with their own goods, and taking them away with them, thus insuring a little more despatch, many merchants readily pay a rate double as high as that by the ordinary goods train.

"The classification of goods is extremely simple and the rates are low. The classes are special, low, middle, and high, and any trader by an inspection of the rates board, hung up at every station, can tell at once what it will cost him to carry a maund of goods in any one of these classes to any station on the line. The terminal charge, which is one pie per maund, is included in the rate, but no terminal is charged for distances over 60 miles.

"So far, therefore, as the Oude and Rohilkund Railway is concerned, it is an easy matter for any man of ordinary intelligence to find out what it will cost to carry goods throughout any portion of the system: his difficulties, and those of the station clerk too, commence when the goods pass over on to foreign lines, and until the traiffs of all Indian lines are far more simple than they are at present, these difficulties will always act in a certain measure as a bar to through traffic. A uniform tariff throughout all Indian railways would be an immense boon."

42. Thus has this railway been adapted more than any other in India to the wants and usages of the people: and it is very desirable that the success of its arrangements should be known to others. They were started by the late Agent, Major-General Beadle, R.E., and have been improved, as experience was gained, by his successor, Colonel Jenkins, of the Staff Corps.

Coal fields.

43. The coal fields at Kariballi, Mopani, and Wurrora, which we visited, presented scenes of great activity and furnished proofs of the progress which the country is making in material wealth. The Bengal coal fields at present yield the greatest quantity and the best quality. It remains to be seen what the mines of Mopani and Wurrora will produce when their operations are more advanced. With good management there would seem to be very fair promise of success. It is very important for the interests of the railways in Central, and I might add Western India, that a supply of good coal at a moderate cost should be obtained from these sources.

Surplus stores.

44. There are large accumulations of railway stores in possession of all the railway companies, stores which are, to a great extent, not wanted by the particular companies holding them and some of which are unserviceable. At Multan acres of ground were covered with iron bowl sleepers, belonging to the Scinde, Punjab, and Delhi Railway Company. They had been there for years, and a State railway close by had just been constructed with wooden sleepers. The time has arrived when the question, how such surplus stores should be dealt with, may properly be decided. Some systematic plan should be agreed upon for reducing the present stocks and relieving the capital invested in them. It is estimated that the value of stocks now in excess of that which will be required as a standard amount is about 3,000,000*l*.

State lines.

45. The State lines are likely to multiply in the future. We went over those which were open for traffic. The most important are the Rajpootana metre gauge lines before mentioned. They are ably managed by Captain Kellow Pye, R.E. With regard to the general administration of the State railways, whether open or in course of construction, the tendency would seem, from what I was able to gather, to be too much in the direction of centralization. This is, perhaps, the natural consequence of direct Government superintendence; but it is one which, besides having a depressing and disheartening effect upon the local officers and their staffs, will interfere with individual responsibility and unduly restrict free and decided action. Another important matter to bear in mind, in connection with these State lines, especially after they have once been commenced, is the necessity for supplying funds to the local officers so as to enable them to carry out their engagements, and to avoid those delays and stoppages which are not only detrimental to the works in hand, but which lead to extravagance and waste in the end.

Feeder roads.

46. The construction of feeder roads to stations on the railways is a matter of great importance. The Government regard it as such, and in a minute dated the 21st October 1873, lays down the principle that "The Supreme Government "now retains the responsibility for the provision and maintenance of the railway "system throughout India, and leaves to the Provincial Governments and Ad-"ministrations that of the provision of roads." The advantage of constructing roads in the neighbourhood of railways as feeders to them is pointed out and the belief is expressed that "expenditure on such roads will afford a more effective and economical result than outlay in any other direction." The native princes through whose territories railways have been constructed, with the help of Government, are also encouraged to adopt the same course. It is to be hoped that this policy will be effectual, but there are still complaints of the want of good roads to stations. The Lieutenant-Governor of the North-West Provinces has taken up the question, and has decided to commence, during the present year, "certain changes which, followed up, will tend year by year towards a systematic "plan of roads, feeding directly the railway, or subserving the commerce" of those provinces.

Manufacture of iron in India.

47. The extension of the railway system has naturally attracted attention to the importance of obtaining, if possible, a supply of iron from native sources. While iron ore exists in several districts in India, its quality or the situation of the beds in which it was found has not favoured its manufacture. Hitherto the cost of conveying the iron to the nearest market would have been greater than the article could bear. But as railways approach the localities and the means of transport is thus provided, one obstacle is removed. The supply of fuel and of proper fluxes has also been a difficulty which further research and the connection

of various districts containing the necessary materials may remove. In 1872, Mr. Bauerman, an experienced mineralogist, visited the various places in India where iron ore was known to exist as well as the localities where coal is found, with the view of ascertaining the prospect of successfully producing iron. Previously to leaving India he made a brief report on the result of his examinations, in which he remarked, "The problem to be solved is not a simple one, as "there appears to be no single locality in which all the requisites for the pro- "duction of iron can be obtained to advantage on the spot. The Kumaon Works "seem to be the most favourably situated in this respect, but Mr. Ramsay, the late "manager, has left on record his opinion that cupra ores are necessary to make "iron profitable, and that information is required as to the capacity of the forests "for yielding wood and charcoal for carrying on the works on a large scale with- "out being destroyed." Mr. Bauerman also alluded to the question of conveyance, and stated that in his opinion "very much lower rates would be necessary than those now charged by the Railway Companies for the carriage of minerals." The only iron works now in operation are at Raneegunge. They are in the hands of a company which has the command of a good supply of lime. Smelting was commenced in the spring of this year, but sufficient time has not yet elapsed to enable a report to be made of the result. It is to be hoped also that the old Kumaon Works will soon be again revived, when railway communication advances nearer to them.

Military use of railways.

48. Towards the end of the year, a committee was appointed by the Commander-in-Chief, Lord Napier of Magdala, of which Lieutenant-General Sir Charles Reed, K.C.B., was the president, to consider how railways can be made most available for military use in India. As a preliminary step experiments were made at Delhi under Sir Charles Reed's directions with the vehicles of the Sindh, Punjab, and Delhi line. "A squadron of the 10th Hussars, and 123 horses, including "officers' chargers, 68 grass-cutters ponies, with baggage, camp equipage, ammuni- "tion, doolies, &c., fully equipped for field service, were embarked in high-sided "waggons, and the train ready to start in 39 minutes. The unloading and fixing "of horse ramps took 2½ minutes and dismantling and re-loading ramps "1½ minutes. . . . The baggage was brought alongside covered goods waggons on "80 camels, the weight being 674 maunds. By heaping up the baggage from "the line of rail to the side doors of the waggons, a ramp was thus formed, and "the whole, including camp equipage, &c., was loaded in 27 minutes, with the "aid of a working party of 25 infantry." Orders were then given to move the train across the Jumna. When the train was pulled up, the waggons were disconnected, ramps fixed at either end, and the horses and men were out and ranged along the railway bank in 28 minutes. Re-embarking was accomplished in 32 minutes and the dis-embarkation, on the return of the train to Delhi, in 27 minutes.

49. Another experiment was made with an Armstrong battery. "The whole "battery, consisting of three 40-pounder Armstrong guns, two 8-inch and two "5½-inch mortars, with seven waggons, two store carts, 134 bullocks, including "camp equipage, baggage, &c., fully equipped for active service, were embarked "and ready to move in 40 minutes. . . . . The train reached Ghazeeabad "(about ten miles distant) safely without a single mishap, and proving satis- "factorily that the floors, springs, and bolts of the Sindh, Punjab, and Delhi "Railway trucks were fully equal to this severe test. The guns and bullocks "were disembarked, the first gun being brought into action by the side of the "line in eight minutes, the second in 13 minutes, and the third in 24. These "three guns were reloaded in 12½ minutes, showing thereby what could be done "with a little practice." The ramps and girders designed by Sir Charles Reed for the end-loading system were generally approved of. This system is strongly advocated by Sir Charles Reed, and there appears to have been a general concurrence of opinion that it is very well adapted for military purposes. The only doubt was whether waggons so constructed would be equally suitable for their ordinary commercial purposes, and the railway members of the Committee, with the exception of Mr. Henry P. Le Mesurier, C.S.I., the Agent of the Great Indian Peninsula Railway, made objections to the proposed alteration in the rolling stock, on the ground that the vehicle would be weakened and rendered less serviceable. This difficulty, however, will probably be got over; but as the cost would be considerable, the change, if applied generally, should be gradually proceeded with. The experiments above described were confined to the 5′ 6″ gauge, as no vehicles of the metre guage were available.

ACCIDENTS.

50. During the year 1875 one very serious accident happened, by which nine passengers were killed and 13 were injured. Other passengers have lost their lives while travelling, but this was the only case which occurred from causes beyond the control of the sufferers. It took place on the 14th August, on the Jubbulpore branch of the East India Railway, and is thus officially reported: "The engine " of a down mail from Jabbalpore left the rails when going at high speed about " three miles from Katnee, and the carriages over-rode each other and became a " complete wreck except from in the rear, the line for a distance of 50 or 60 yards " being completely broken up. The accident is supposed to have been caused by " the engine running over the cow-catcher which had worked loose and dropped " on the rails."

51. It will be seen by the following Tables, which were prepared in India, that the number of passengers who, during the year, were killed through their own misconduct or want of caution was nine, and that 28 were injured from similar causes. One was a prisoner who attempted to escape by jumping out of the train. The most fertile cause of accidents is the attempt on the part of passengers to get out of the trains while they are in motion.

52. Of railway servants, eight were killed and 25 injured from causes beyond their control: and 93 were killed and 173 injured by preventible causes. Seventy-two persons were run over and killed while trespassing, and eight were injured in the same way. The large number of accidents from this cause would seem to indicate that the danger incurred by trespassers is hardly understood, and suggests whether greater precautions might not be taken to warn people against walking within the boundaries of the railway.

53. It will be seen that the total number of accidents to trains was 868 compared with 767 of the previous year: that 405 of them were cases of running over cattle which had trespassed: 59 were collisions: 151 were from getting off the proper line, and 148 from a variety of other causes.

Table No. 1.

Abstract of the Number and Nature of the Accidents and of the Injuries to Life and Limb which have occurred on all Railways open for Traffic in India during the Year 1875.

Under the Control of the Government of	Mean Mileage open.	Railways.		Classification of Accidents to Trains, &c. — Main Heads. I. Collision.	II. Getting off proper Line.	III. Fire.	IV. Running over Cattle.	V. Other Causes.	Total.	Passengers. From Causes beyond their own Control. Killed.	Passengers. From Causes beyond their own Control. Injured.	Passengers. From their own Misconduct or want of Caution. Killed.	Passengers. From their own Misconduct or want of Caution. Injured.	Servants of Companies or of Contractors. From Causes beyond their own Control. Killed.	Servants of Companies or of Contractors. From Causes beyond their own Control. Injured.	Servants of Companies or of Contractors. From their own Misconduct or want of Caution. Killed.	Servants of Companies or of Contractors. From their own Misconduct or want of Caution. Injured.	Others. Whilst crossing at Level Crossings. Killed.	Others. Whilst crossing at Level Crossings. Injured.	Others. Whilst trespassing (including Suicide). Killed.	Others. Whilst trespassing (including Suicide). Injured.	Others. Miscellaneous. Killed.	Others. Miscellaneous. Injured.	Total Persons of all Classes. Killed.	Total Persons of all Classes. Injured.	Total Persons of all Classes. Killed and Injured.
India	1,503¼	East Indian	1875	4	1	8	131	13	157	9	16	6	13	3	3	25	46	2	—	36	4	6	—	87	82	169
	1,503¼		1874	36	21	20	184	6	267	1	18	8	17	1	13	27	70	8	1	51	10	7	3	103	132	235
	158¼	Eastern Bengal	1875	—	2	—	7	—	9	—	—	—	3	—	1	5	13	—	—	4	—	—	—	9	17	26
	158¼		1874	1	—	—	1	—	2	—	—	—	1	—	—	6	9	—	—	1	—	—	—	7	10	17
	542	Oudh and Rohilkhand	1875	17	32	8	51	15	123	—	—	3	2	4	4	9	19	1	—	4	—	—	—	21	25	46
	524		1874	5	7	12	18	13	55	—	1	—	1	1	8	7	7	—	—	5	—	1	1	14	18	32
	553¾	S. P. & D. Punjab Section.	1875	7	7	6	5	9	34	—	1	—	5	—	—	5	6	—	—	6	1	—	—	11	13	24
	556		1874	6	14	19	4	14	57	—	1	—	1	—	—	4	4	—	—	6	1	1	—	11	7	18
	109¾	S. P. & D. Sind Section.	1875	—	—	10	22	23	55	—	—	—	—	—	—	—	2	—	—	—	—	1	—	1	2	3
	109¾		1874	—	1	10	15	18	44	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1
	28	Calcutta and South-eastern (State).	1875	—	—	—	17	—	17	—	—	—	—	—	—	—	—	—	—	1	1	—	—	1	1	2
	28		1874	2	4	—	31	—	37	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	2	2
	27¼	Nalhati	1875	—	—	1	4	1	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27¼		1874	—	1	1	2	2	6	—	—	1	2	—	—	—	—	—	—	—	—	—	—	1	2	3
	344¼	Rajputana	1875	4	20	2	31	37	94	—	1	—	1	—	—	3	4	—	—	1	—	—	—	4	6	10
	178		1874	2	19	—	12	10	43	—	—	—	—	—	—	9	2	—	—	2	—	—	—	11	2	13
	56	Holkar	1875	3	46	15	9	8	81	—	—	—	1	—	—	1	—	—	—	1	1	—	—	2	2	4
	36		1874	1	1	—	—	—	2	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1
	62	Punjab Northern	1875	—	1	2	6	—	9	—	—	—	—	—	—	—	1	—	—	—	—	—	2	—	3	3
	—		1874	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	44	Tirhut	1875	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—		1874	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Madras	856¾	Madras	1875	6	7	34	41	6	94	—	1	—	—	—	2	5	12	1	—	2	—	—	1	8	16	24
	856¾		1874	1	18	19	48	6	92	—	—	1	1	3	6	6	7	—	—	5	—	2	—	17	14	31
	218¼	South Indian	1875	1	—	1	13	6	21	—	—	—	—	—	—	—	1	—	—	2	—	—	—	2	1	3
	186		1874	—	2	—	22	—	24	—	—	—	2	—	—	—	—	1	—	—	—	—	—	1	2	3
Bombay	1,420	Great Indian Peninsula (a).	1875	12	31	17	36	29	125	—	4	—	2	1	12	35	61	1	2	9	1	3	3	49	85	134
	1,420		1874	12	15	11	45	23	106	—	23	—	1	7	12	22	29	1	—	5	2	3	3	38	70	108
	450	Bombay, Baroda, and Central India (b).	1875	5	3	1	32	1	42	—	—	—	1	—	3	5	10	2	—	6	—	—	—	13	14	27
	444		1874	2	—	—	25	5	32	—	—	2	1	1	2	10	11	1	1	2	3	—	1	16	19	35
Total Indian Railways	6,373¾		1875	59	151	105	405	148	868	9	23	9	28	8	25	93	175	7	2	72	8	10	6	208	267	475
	6,022¾		1874	68	103	92	407	97	767	1	43	12	27	13	41	93	140	11	2	77	16	14	9	221	278	499

(a) Includes Wardha Valley, Nizam's, and Berar State Railways.

(b) Includes Dubhoe Branch Railway.

TABLE No. II.—NUMERICAL ABSTRACT of ACCIDENTS OF ALL CLASSES on all Railways open for Traffic during the Year 1875.

	UNDER THE CONTROL OF THE GOVERNMENT OF INDIA.																				UNDER THE CONTROL OF THE GOVERNMENT OF MADRAS.				UNDER THE CONTROL OF THE GOVERNMENT OF BOMBAY.				Total.		
	East Indian.		Eastern Bengal.		Oudh and Rohilkund.		Punjab and Delhi.		Sind.		Calcutta and South-eastern.		Nalhati.		Rajputana.		Holkar.		Punjab Northern.		Tirhut.		Madras.		South Indian.		Great India Peninsula.		Bombay, Baroda, & Central India.				
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed & Injured.
PASSENGERS.																															
From causes beyond their own control, *viz.*:—																															
From accidents to trains	9	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	9	16	25
From other causes	..	3	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1	..	..	..	7	7
Total	9	16	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	4	..	..	9	23	32
Per million of passengers	1·419	2·523	..	..	..	..	..	0·465	..	..	..	..	..	..	..	1·949	..	..	..	..	..	..	..	0·366	..	..	..	..	..	0·344	0·879	1·223
Per million of passenger miles	0·018	0·033	..	..	..	..	..	..	..	..	..	..	..	..	..	0·035	..	..	..	..	..	..	..	0·007	..	..	..	..	..	..	..	..
From their own misconduct or incaution	6	13	..	3	3	2	..	5	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	1	9	28	37
Per million of passengers	0·946	2·050	..	1·656	1·259	0·839	..	2·323	..	..	..	..	..	..	..	1·949	..	5·486	..	..	..	..	..	..	..	0·599	..	0·240	0·344	1·070	1·414
Per million of passenger miles	0·012	0·027	..	0·048	0·027	0·018	..	..	..	..	..	..	..	..	..	0·035	..	0·168	..	..	..	..	..	..	..	..	..	..	..	..	..
Total from all causes	15	29	..	3	3	3	..	6	..	..	..	..	..	..	..	2	..	1	..	..	..	..	..	1	..	6	..	1	18	51	69
SERVANTS OF COMPANIES OR OF CONTRACTORS.																															
From causes beyond their own control	3	3	..	1	4	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	1	12	..	3	8	25	33
From their misconduct or incaution	25	46	5	13	9	19	5	6	..	2	..	..	..	..	3	4	1	..	..	1	..	..	5	12	..	1	35	61	5	10	93	175	268
Total from all causes	28	49	5	14	13	23	5	6	..	2	..	..	..	..	3	4	1	..	..	1	..	..	5	14	..	1	36	73	5	13	101	200	301
OTHER PERSONS.																															
Crossing at level crossings	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	2	2	..	7	2	9
Trespassers, including suicide	36	4	4	..	4	..	6	1	..	..	1	1	..	..	1	..	1	1	..	..	..	..	2	..	2	..	9	1	6	..	72	8	80
Miscellaneous	6	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	..	..	..	..	1	..	..	3	3	..	..	10	6	16
Total from all causes	44	4	4	..	5	..	6	1	1	..	1	1	..	..	1	..	1	1	..	2	..	..	3	1	2	..	13	6	8	..	89	16	105
Grand total of all classes from all causes	87	82	9	17	21	25	11	13	1	2	1	1	...	..	4	6	2	2	..	3	..	..	8	16	2	1	49	85	13	14	208	267	475
Mean length of railway open during the year (miles)	1,505½		158½		542		553½		109½		28		27½		344½		56		62		44		856‡		219½		1,420*		450†		6,373½		
Number of passengers carried	6,341,880		1,811,345		2,383,237		2,152,237		100,897		489,283		81,054		513,154		182,276		265,175		47,717		2,730,477		1,548,827		3,341,128†		4,172,015‡		29,157,612		
Train mileage (goods and passengers)	5,950,289		518,950		1,005,413		1,113,643		274,338		39,729		30,490		290,253		135,462		46,983		24,916		2,117,090		334,093		4,332,198†		1,124,439‡		17,388,977		
Passenger mileage	487,969,430		63,051,500		112,042,706		..		..		4,509,438		1,854,624		28,560,659		5,926,318		9,150,099		..		134,129,791		48,200,923		..		..		..		

* Includes the Nizam's, Wardha Valley, and the Berar State Railways.

† These figures appear to be for the G. I. P. Railway only.

‡ Includes the Dubhoe Branch.

TABLE No. III.—CLASSIFIED ABSTRACT of ACCIDENTS to SERVANTS of COMPANIES or of CONTRACTORS on all Railways open for Traffic in India during the Year 1875.

CLASSIFICATION.	UNDER THE CONTROL OF THE GOVERNMENT OF INDIA.																				UNDER THE CONTROL OF THE GOVERNMENT OF MADRAS.				UNDER THE CONTROL OF THE GOVERNMENT OF BOMBAY.				TOTAL.		
	East Indian.		Eastern Bengal.		Oudh and Rohilkund.		Punjab and Delhi.		Sind.		Calcutta and South-eastern.		Nalhati.		Rajputana.		Holkar.		Punjab Northern.		Tirhut.		Madras.		South Indian.		Great Indian Peninsula.		Bombay, Baroda, & Central India.				
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed & Injured.
I.—FROM CAUSES BEYOND THEIR OWN CONTROL—																															
(a.) Servants employed on trains in motion—																															
1. Collisions	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	2	..	6	6
2. Trains running into sidings or off their proper line, through points being wrong	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Trains or engines getting off rails	2	2	..	..	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5†	..	..	5	9	14
4. Accidents from defects in rolling stock	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
5. Miscellaneous	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2*	..	..	..	2	..	..	1	5	6
Total	2	3	..	1	4	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	10	..	2	6	21	27
(b.) Servants employed in stations or on lines—																															
1. Run over or crushed between buffers while coupling or uncoupling carriages and waggons	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Run over while shunting trains	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Run over or struck while performing their duties	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	2	2	4
4. Miscellaneous	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	2
Total	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	1	2	4	6
II.—FROM INCAUTION OR MISCONDUCT:—																															
(a.) Servants employed on trains in motion—																															
1. Collisions	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	3
2. Attempting to get upon, or off, or falling from engines or carriages in motion	1	8	1	2	1	1	..	3	..	1	..	..	..	..	1	2	1	..	..	..	..	..	1	2	..	1	5	11	1	3	12	34	46
3. Miscellaneous	3	2	..	1	..	3	1	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	1	..	5	10	15
Total	4	11	1	3	1	4	1	4	..	2	..	..	..	..	2	3	1	..	..	..	..	..	1	3	..	1	5	11	2	4	18	46	64
(b.) Servants employed in stations or on lines—																															
1. Run over or crushed between buffers while coupling or uncoupling carriages or waggons	2	4	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	2	6	..	..	5	12	17
2. Run over or struck while shunting trains	2	5	..	1	1	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	5	12	..	1	9	22	31
3. Run over or struck while incautiously standing or walking upon the line	13	12	3	4	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	23	7	2	1	51	25	76
4. Miscellaneous	4	14	1	5	2	13	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	6	..	..	..	25	1	4	10	70	80
Total	21	35	4	10	8	15	4	2	..	..	..	..	..	..	1	1	..	..	.	1	..	..	4	9	..	..	30	50	3	6	75	129	204
Grand Total	28	49	5	14	13	23	5	6	..	2	..	..	..	..	3	4	1	..	..	1	..	..	5	14	..	1	36	73	5	13	101	200	301
Train mileage	5,950,289		518,980		1,005,413		1,113,645		274,838		39,720		30,490		220,253		135,462		46,983		24,916		2,117,000		334,093		4,332,198		1,124,639		17,388,977		
Number of servants employed	19,322		4,145		2,234		7,455		2,263		204		141		3,427		391		387		187		6,759		2,074		14,647		4,184		67,420		

* In one of these cases the under guard, who was pushed out of his van by the door closing upon his back, did not, it is said, receive any injury, but yet he is classed with the injured. † The accident in which these five men were injured occurred to a lorry.

TABLE No. IV.

Showing the TOTAL NUMBER of ACCIDENTS to PERSONS of all kinds, and to TRAINS, &c., on all RAILWAYS open for TRAFFIC during the Year 1875.

Under the Control of the Government of		Mean Length of Railway open.	Total Number of Train Miles.	Train Miles per Mile open.	Passenger Mileage.	Passenger Mileage per Mile open.	Total Number of Accidents to Trains, &c. of all kinds.	Total Number of Passengers carried.	Average Number of Passengers per Mile open.	Passengers.		Servants.				Trespassers, &c.		Total.		
												Beyond their own Control.		Within their own Control.						
										Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed and Injured.
India	1875	3,428¼	9,430,987	2,750	—	—	586	14,367,165	4,190	18	43	7	8	48	91	63	9	136	151	287
	1874	3,115¾	10,803,722	3,470	—	—	513	13,094,692	4,206	10	42	2	21	55	93	82	17	149	173	322
Madras	1875	1,075	2,451,153	2,280	182,330,714	169,610	115	4,277,304	3,979	—	1	—	2	5	13	5	1	10	17	27
	1874	1,042¾	2,236,347	2,144	183,820,849	176,242	116	4,305,233	4,128	1	3	3	6	6	7	8	—	18	16	34
*Bombay	1875	1,870	5,506,837	2,945	—	—	167	7,513,143	4,018	—	7	1	15	40	71	21	6	62	99	161
	1874	1,864	4,942,384	2,651	—	—	138	7,153,695	3,838	2	25	8	14	32	40	12	10	54	89	143
Total	1875	6,373¾	17,388,977	2,728	—	—	868	26,157,612	4,104	18	51	8	25	93	175	89	16	208	267	475
	1874	6,022⅓	17,982,403	2,987	—	—	767	24,553,620	4,079	13	70	13	41	93	140	102	27	221	278	499

* Includes the Wardha Valley, the Nizam's, and the Berars State Railways, which are worked by the Great Indian Peninsula Railway Company, and the Dubhoe Branch which is worked by the Bombay, Baroda, and Central India Railway Company.

CAPITAL.

54. The total amount of capital expended on railways in India to the 31st December last as regards State lines, and to the 31st March last as regards guaranteed lines, was 105,790,929*l.* Of this, 93,720,794*l.* was defrayed from guaranteed Share Capital, Debentures, or Debenture Stock issued by the companies, and 12,070,135*l.* was expended direct by the Government. During the year to the 31st December last, the expenditure on State lines was 2,760,940*l.*, of which 2,084,297*l.* was expended in India, and 676,643*l.* in England; and in the year to the 31st March last guaranteed capital is estimated to have been spent to the extent of 1,279,000*l.* The capital which has been raised by the companies under the guarantee amounts to 95,072,441*l.*, of which 83,697,322*l.* is Share Capital, 5,691,570*l.* Debentures (299,520*l.* being convertible into shares), 5,129,878*l.* Debenture Stock, and 553,671*l.* capital not bearing interest. Full particulars are given in the tables at pp. 23 to 27 prepared in the office of the Accountant. The following list shows the different rates of guaranteed interest paid by Government:—

	£
Share Capital at 5 per cent.	81,923,520
Do. do. 4¾ ,,	1,273,802
Do. do. 4½ ,,	500,000
Debentures 5 ,,	1,380,370
Do. do. 4½ ,,	183,450
Do. do. 4¼ ,,	2,096,400
Do. do. 4 ,,	2,031,350
Debenture Stock 4½ ,,	1,925,000
Do. do. 4 ,,	3,204,878
Capital not bearing interest	553,671
	£95,072,441

The manner in which this money has been approximately expended may be seen by the subjoined statement:—

Railway.	Works and Bridges.	Permanent Way, Stations, &c.	Freight and Insurance.	Rolling Stock and Engines.	Establishments.	Miscellaneous, Electric Telegraph, Stores, &c.
	£	£	£	£	£	£
East Indian	9,615,000	7,145,000	3,000,000	3,655,000	3,735,000	3,350,000
Great Indian Peninsula	9,450,000	7,574,000	—	2,875,000	1,626,000	1,310,000
Madras	3,455,000	3,845,000	—	1,103,000	888,000	455,000
Bombay, Baroda, and Central India	3,265,000	2,168,000	—	1,105,236	780,000	459,000
Scinde, Punjab, and Delhi	2,342,000	3,409,000	Flotilla. 376,160	1,958,000	1,090,000	796,000
South Indian	775,000	916,000	—	296,000	385,000	260,000
Eastern Bengal	2,248,000		Flotilla. 75,000	318,070	337,000	99,000
Oude and Rohilkund	1,230,000	2,302,000	—	583,000	552,000	617,000

Statement No. 1.

Statement of Expenditure in England and India on Indian State Railways, appropriated to the various Undertakings as shown in Statements to 31st December 1875, received from India.

State Railway.	Expenditure appropriated.			Classification of Expenditure.												
	England.	India.	Total.	Preliminary Expenses.	Land.	Construction of Line.	Ballast and Permanent Way.	Stations and Buildings.	Electric Telegraph.	Plant.	Rolling Stock.	Maintenance.	Establishment.	Contingencies.	Suspense Accounts.	Receipts on Capital Account.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	
Punjab, Northern	463,749	1,421,603	1,885,352	25,511	22,384	967,740	215,344	46,373	108	107,890	49,513	2,536	327,794	12,502	114,578	
Indus Valley	434,610	1,706,276	2,140,886	61,207	9,637	646,406	475,456	90,938	655	72,961	23,129	1,172	336,402	23,509	403,230	*3,816*
Hubli and Carwar	2,502	52,792	55,294	4	—	—	—	—	—	—	—	—	53,649	1,641	—	—
Wardha Valley, Coal	38,075	287,921	325,996	8,487	78	74,354	125,281	18,261	—	8,613	241	—	27,858	1,107	62,031	*265*
Holkar	260,551	707,722	968,273	3,252	4,452	344,716	158,229	45,857	—	29,052	35,914	35	102,917	7,732	239,102	*2,985*
Neemuch	236,751	273,504	510,255	20,617	27	77,414	76,216	19,829	—	11,761	2,594	57	69,097	4,267	228,818	*442*
Rajpootana	718,983	1,612,935	2,331,918	25,692	38,481	587,580	874,316	177,791	—	29,855	230,610	62	183,764	10,402	225,788	*2,023*
Western Rajpootana	—	43,936	43,936	3,578	—	—	—	—	—	2,006	—	—	36,251	1,906	215	*20*
Nulhatee	30,000	—	30,000	—	—	*30,000	—	—	—	—	—	—	—	—	—	—
Calcutta and South-eastern	268,383	422,418	690,801	6,769	106,507	104,596	155,774	57,164	3,693	8,270	122,458	—	86,773	18,766	18,031	—
Northern Bengal	217,763	449,852	667,615	7,356	28,398	108,243	18,538	15,122	3,236	14,026	169	124	97,509	3,710	372,514	*1,990*
Scindia	1,148	32,066	33,214	1,841	—	2,193	—	1,819	—	4,301	41	—	20,499	679	1,863	*22*
Nagpur and Chuteeseghur	—	8,773	8,773	1,117	—	—	—	—	—	470	—	—	6,973	231	—	*18*
Tirhoot	89,891	230,493	320,384	1,415	381	66,318	134,307	13,254	—	10,948	34,926	†15,510	26,921	1,659	19,596	*4,851*
Rangoon and Irrawaddy Valley	66,838	178,011	244,849	1,818	8,537	39,646	58,582	6,102	—	8,434	7,127	—	20,335	781	93,629	*1,42*
Rangoon and Sittang Valley	—	3,864	3,864	547	—	—	—	—	—	—	—	—	2,891	170	256	—
Moradabad, Deobund, and Roorkee	—	2,852	2,852	52	—	—	—	—	—	34	—	—	2,616	150	—	—
Hathras and Muthra Section, Light Provincial Railway.	—	92,551	92,551	92	990	8,015	52,489	10,121	—	173	15,760	—	6,485	165	3,265	*4*
Native States.																
Nizam's	143,975	987,926	1,131,901	1,057	—	396,623	467,990	91,920	—	16,055	9,163		110,279	4,724	37,101	*3,011*
Khamgaum Branch	—	48,530	48,530	37	39	10,921	29,323	4,038	125	349	32	—	2,838	234	—	—
Oomraotee Branch	13,316	30,418	43,734	112	245	9,418	25,259	4,344	110	302	15	—	3,806	123	—	—
Mysore	—	11,624	11,624	550	—	—	—	—	—	831	—	—	9,994	249	—	—
Total	2,986,535	8,606,067	11,592,602	171,111	222,156	3,419,183	2,867,054	603,533	7,927	325,825	531,692	19,496	1,535,651	94,707	1,819,617	*25,350*

* This amount was paid to the Oude and Rohilkund Railway Company for purchase of the Line.

† Described in statement received from India as traffic charges.

Note.—The total expenditure in England on State Railways to 31st December 1875 amounted to 3,464,068*l.* The above figures represent only that portion of such expenditure as had been appropriated in India to the several undertakings to the date of the last advices received.

India Office, 23rd May 1876.

T. W. Keith,
Accountant.

Statement No. 2.

Showing the Amount of Capital estimated to be required for each Undertaking as now sanctioned, the Amount authorised to be raised, the Amount raised, and the Amount withdrawn, to 31st March 1876.

Railway.	Estimated Cost of Lines.	Amount authorised to be raised on 31st March 1876.						Amount raised in England to 31st March 1876.						Amount raised in India to Date of last Advices.		Total Amount raised to 31st March 1876.	Total Amount withdrawn to 31st March 1876 (partly estimated).
		Share Capital.	Debentures.		Debenture Stock.	Capital not bearing Interest.	Total.	Share Capital.	Debentures.		Debenture Stock.		Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.		
			Convertible into Shares.	Inconvertible.					Convertible into Shares.	Inconvertible.	Stock represented.	Cash received.					
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
East Indian—Main Line -	27,750,000	22,835,380	164,620	2,719,850	1,500,000	163,428	27,383,278	22,458,149	164,620	2,719,850	*1,500,000*	1,500,000	162,090	326,825	1,338	27,332,372	27,156,272
„ Jubbulpore Line -	3,250,000	3,200,000	—	—	—	43,249	3,243,249	3,189,350	—	—	—	—	43,249	7,665	—	3,240,264	3,413,898
Great Indian Peninsula - -	24,500,000	20,000,000	—	1,304,250	3,065,300	229,602	24,599,152	19,064,125	—	1,304,250	*2,701,450*	2,475,559	228,860	405,047	742	23,478,583	22,854,608
Madras - - -	10,500,000	10,212,800	89,600	—	—	9,898	10,312,298	10,193,201	89,600	—	—	—	9,898	—	—	10,292,699	10,090,144
Bombay, Baroda, and Central India - - - -	8,000,000	7,550,300	45,300	200,000	—	35,387	7,830,987	7,528,628	45,300	200,000	—	—	35,387	21,672	—	7,830,987	7,776,383
Scinde, Punjab, and Delhi -	11,000,000	11,418,900	—	—	—	4,403	11,423,303	10,988,984	—	—	—	—	4,336	86,253	67	11,079,640	10,643,041
Eastern Bengal - - -	3,200,000	2,255,520	—	462,350	411,308	2,288	3,131,466	2,238,996	—	52,650	*411,308*	374,730	2,288	16,486	—	2,685,150	3,082,136
Oude and Rohilkund - -	6,000,000	4,000,000	—	1,115,300	384,700	3,352	5,503,352	3,575,581	—	1,115,300	*384,700*	354,589	3,352	424,419	—	5,473,241	5,318,789
South Indian - - -	4,000,000	3,215,091	—	—	425,000	62,064	3,702,155	3,171,220	—	—	*425,000*	425,000	62,009	1,221	55	3,659,505	3,385,523
Total - -	98,200,000	84,687,991	299,520	5,801,750	5,786,308	553,671	97,129,240	82,408,234	299,520	5,392,050	*5,422,458*	5,129,878	551,469	1,289,088	2,202	95,072,441	93,720,794

India Office, 12th April 1876.

T. W. Keith,
Accountant.

Statement No. 3.

Showing the Amount received from and withdrawn by each Company during the Year ended 31st March 1876.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1875.	Sums advanced to the Companies on the 31st March 1875.	Amount received: In England, between 1st April 1875 and 31st March 1876. Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	In India, between 1st April 1875 and the Date to which Accounts have been received. Share Capital.	Capital not bearing Interest.	Amount withdrawn: In England, between 1st April 1875 and 31st March 1876. On account of Stores, Establishment Charges, &c.	For Discharge of Debentures.	In India. Date to which Accounts have been received.	Amount.	Estimated Withdrawals between Dates specified and 31st March 1876.	Total received during the Year ended 31st March 1876.	Total withdrawn during the Year ended 31st March 1876.
	£	£	£	£	£	£	£	£	£	£		£	£	£	£
East Indian, Main Line.	480,779	—	99	1,000,000	—	3,263	—	—	212,794	1,220,150	31st December 1875	*52,903**	*72,000*†	1,003,362	1,308,041
East Indian, Jubbulpore Line.	—	237,022	37,870	—	—	5,658	—	—	—	—	„	*5,860**	*14,000*†	43,528	*19,860*
Great Indian Peninsula.	570,147	—	—	—	—	—	—	—	242,916	—	„	*96,744**	*200,000*†	—	*53,828*
Madras - -	104,645	—	626,035	—	—	—	—	—	84,550	500,000	„	18,575	*75,000*†	626,035	528,125
Bombay, Baroda, and Central India.	33,871	—	510	—	—	—	—	—	38,531	—	„	*13,754**	*45,000*†	510	*20,223*
Scinde, Punjab, and Delhi.	799,631	—	—	—	—	—	—	—	55,081	—	„	307,951	—	—	363,032
Eastern Bengal -	—	388,274	—	—	—	—	—	—	30,353	—	„	8,359	*30,000*†	—	8,712
Oude and Rohilkund	321,430	—	37	—	—	—	—	—	38,844	—	„	88,171	40,000	37	167,015
South Indian -	992,118	—	—	—	—	—	—	—	460,429	—	„	205,707	52,000	—	718,136
Total -	3,302,621	625,296	664,551	1,000,000	—	8,921	—	—	1,163,498	1,720,150	—	459,502	*344,000*†	1,673,472	2,999,150

* Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c. exceed by these sums the amounts withdrawn in India on Capital Account during the year.

† It is estimated that, on receipt of advices from India regarding transfers, which are several months in arrear of advices of cash transactions, transfers of expenditure to Revenue Account, &c. will have exceeded the withdrawals to this extent.

India Office, 12th April 1876.

T. W. Keith,
Accountant.

STATE of DEBENTURE LOANS on the 31st March 1876.

Railway.	Amount.			Rate of Interest	Date at which Loan expires.
	Convertible.	Inconvertible.	Total.		
	£	£			
East Indian	164,620	—		5	9th August 1876.
"	—	96,400		4½	10th August 1877.
"	—	183,450		4½	" "
"	—	1,000,000		4¼	22d August 1877.
"	—	440,000		4	19th March 1878.
"	—	1,000,000		4¼	1st January 1881.
	164,620	2,719,850			
			2,884,470		
Great Indian Peninsula	—	1,035,450		5	31st Dec. 1876.
" "	—	268,800		4	30th June 1878.
	—	1,304,250			
			1,304,250		
Madras	89,600	—		5	1st January 1877.
			89,600		
Bombay, Baroda, and Central India	45,300	—		5	1st July 1876.
" " "	—	200,000		4	1st January 1882.
	45,300	200,000			
			245,300		
Eastern Bengal	—	45,400		5	1st November 1876.
"	—	7,250		4	1st November 1884.
	—	52,650			
			52,650		
Oude and Rohilkund	—	615,300		4	4th June 1880.
" "	—	500,000		4	1st August 1881.
	—	1,115,300	1,115,300		
			5,691,570		

India Office,
12th April 1876.

T. W. KEITH,
Accountant.

It will be seen by the above statement that the whole of the Convertible Debentures will be paid off this year. The total amount of Debentures of all kinds now outstanding is 932,570*l.* less than it was last year.

STATEMENT of WITHDRAWALS out of CAPITAL for EXPENDITURE; showing the Amount withdrawn in England and in India by all the Guaranteed Indian Railway Companies during each Financial Year from the commencement to 31st March 1876.

Year.	England.	India.	Total.
	£	£	£
1849–50	69,211	6,682	75,893
1850–51	61,164	38,099	99,263
1851–52	154,212	197,111	351,323
1852–53	174,920	252,640	427,560
1853–54	252,484	418,165	670,649
1854–55	960,878	769,278	1,730,156
1855–56	1,935,074	1,431,337	3,366,411
1856–57	1,752,813	1,762,287	3,515,100
1857–58	1,328,243	2,094,825	3,423,068
1858–59	1,941,033	3,551,075	5,492,108
1859–60	2,508,668	4,662,796	7,171,464
1860–61	2,388,315	5,190,400	7,578,715
1861–62	1,597,430	5,004,782	6,602,212
1862–63	1,852,393	4,010,951	5,863,344
1863–64	1,415,146	3,340,507	4,755,653
1864–65	1,396,821	2,725,419	4,122,240
1865–66	2,222,679	3,414,187	5,636,866
1866–67	3,958,357	3,339,346	7,297,703
1867–68	3,924,490	3,195,591	7,120,081
1868–69	1,969,814	2,512,084	4,481,898
1869–70	2,298,680	2,444,171	4,742,851
1870–71	1,899,054	1,877,216	3,776,270
1871–72	886,996	1,609,732	2,496,728
1872–73	822,995	*345,750*†	477,245
1873–74	1,028,032	*334,979*†	693,053
1874–75	1,174,893	*86,982*†	1,087,911
1875–76	1,163,498	115,502*	1,279,000*
	41,138,293	53,196,472	94,334,765
Deduct amount withdrawn by the Calcutta and South-eastern Railway Company, this Railway having subsequently become the property of the State	267,362	346,609	613,971
	40,870,931	52,849,863	93,720,794

* These amounts are partly estimated.

† Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amount withdrawn in India on Capital Account.

Note.—The total expenditure in India in each year as shown in the above Statement will not be found to coincide with that shown in the Indian Finance and Revenue Accounts, owing to the fact that the transfers of expenditure to Revenue Account can only be made in the books in this country on receipt of advices from India, and are consequently brought to account some months later than in the Indian books.

India Office,
12th April 1876.

T. W. KEITH,
Accountant.

GUARANTEED INTEREST.

55. It will be seen by the following tables that the sums advanced by Government to the different companies amounted during the year to 4,650,346*l.*, compared with 4,641,705*l.* of the previous year, and that the whole amount advanced on this account since the commencement of operations is 56,924,522*l.* Of this large sum 31,230,932*l.* had been paid back by the companies, leaving a net amount of 25,693,590*l.*, which the Government had advanced up to the 30th June 1875. During the past year the excess of interest paid by Government over railway receipts was 1,073,832*l.* compared with 1,061,988*l.* of the previous year, and 1,428,442*l.* of the year before.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

STATEMENT of the Total Amount of INTEREST advanced to each of the under-mentioned Railway Companies to the 31st December 1875.

Railway Company.	Interest advanced to 31st December 1874.	Interest advanced during 1875.						Total.		
		England.			India.			Total.		
	£ s. d.	£	s.	d.	£	s.	d.	£	s.	d.
East Indian, Main Line	18,507,137 1 0	1,331,132	3	4	10,417	3	1	1,341,549	6	5	19,848,686	7	5
„ Jabbalpore Line	1,718,716 1 7	155,995	9	2	383	5	0	156,378	14	2	1,875,094	15	9
Great Indian Peninsula	12,436,452 3 4	1,130,431	16	0	13,609	6	0	1,144,041	2	0	13,580,493	5	4
Madras	6,379,240 9 11	500,335	8	3	—			500,335	8	3	6,879,575	18	2
Bombay, Baroda, and Central India	4,307,818 11 0	387,023	1	10	244	16	3	387,267	18	1	4,694,686	9	1
Scinde, Punjab, & Delhi	5,269,191 4 7	551,119	7	6	2,560	7	11	553,679	15	5	5,822,871	0	0
Eastern Bengal	1,476,985 18 1	130,561	2	6	997	7	10	131,558	10	4	1,608,544	8	5
Oude and Rohilkund	996,614 14 8	254,030	4	10	4,443	1	3	258,473	6	1	1,255,088	0	9
South Indian	1,182,419 13 8	177,062	9	7	—			177,062	9	7	1,359,482	3	3
Total	£ 52,274,175 17 10	4,617,691	3	0	32,655	7	4	4,650,346	10	4	56,924,522	8	2

India Office, 12th April 1876.

T. W. KEITH,
Accountant.

A STATEMENT showing approximately the AMOUNTS advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to the 30th June 1875, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total Amount advanced to 31st December 1875.*	Aggregate of Net Revenue Balances for the several half-years to 30th June 1875, inclusive.	Net Amount advanced.
	£	£	£
East Indian, Main Line	19,848,686	15,856,758	3,991,928
„ Jabbalpore Line	1,875,095	444,184	1,430,911
Great Indian Peninsula	13,580,493	7,284,611	6,295,882
Madras	6,879,576	3,034,271	3,845,305
Bombay, Baroda, and Central India	4,694,687	2,007,631	2,687,056
Scinde, Punjab, and Delhi	5,822,871	935,953	4,886,918
Eastern Bengal	1,608,544	1,085,984	522,560
Oude and Rohilkund	1,255,088	178,792	1,076,296
South Indian	1,359,482	402,748	956,734
Total	£ 56,924,522	31,230,932	25,693,590

* The Interest for the half-year to 30th June 1875 not being paid until the succeeding half-year.

India Office, 12th April 1876.

T. W. KEITH, Accountant.

REVENUE.

56. The net revenue derived from the railways was less than that of the previous year by 320,594*l.* This at first sight does not appear to be satisfactory, but independently of the depression of trade, the falling off is explained by the exceptionally large traffic in grain during 1874, in consequence of the scarcity in Bengal. Last year only 302,719 tons were carried by the East Indian, the Eastern Bengal, and the Punjab and Delhi Railways, instead of 1,217,338 tons in 1874. The gross receipts last year were 7,412,179*l.*, compared with 7,809,984*l.* of 1874, and 6,738,945*l.* of 1873. The receipts from passengers were more by 270,504*l.*, and

from goods they were 586,102*l.* less: from miscellaneous sources they were also 82,307*l.* less. The expenditure was 77,211*l.* less, amounting to 3,764,311*l.*, compared with 3,841,522*l.* of the previous year. The net receipts amounted to 3,647,868*l.*, of which 3,576,514*l.* were from guaranteed and 71,354*l.* from the State lines. Taking the capital of the two to be 97,000,000*l.*, the average earnings, from good and bad together, would be 3*l.* 15*s.* per cent. for the year.

57. The following statement shows the amount of surplus profits earned by guaranteed railways from 1870 to 1875:—

Railway Company.	Half year to 30th June 1870.	Half year to 30th June 1871.	Half year to 30th June 1872.	Half year to 30th June 1873.	Half year to 31st Dec. 1873.	Half year to 30th June 1874.	Half year to 31st Dec. 1874.	Half year to 30th June 1875.	Half year to 31st Dec. 1875.	Total.
	£	£	£	£	£	£	£	£	£	£
East Indian, Main Line	130,095	109,255	150,695	167,753	104,688	641,832	77,951	158,539	38,702	1,579,570
„ Jabbalpore Line	—	—	—	—	—	11,238	—	—	—	11,238
Great Indian Peninsula Railway	—	—	—	—	—	—	—	143,838	—	143,838
Bombay, Baroda, and Central India	—	—	5,864	—	—	4,723	—	5,912	—	16,499
Eastern Bengal	—	—	—	—	8,411	7,810	9,151	—	—	25,372
Total	130,095	109,255	156,559	167,753	113,099	665,603	87,102	308,289	38,702	1,776,457

17th July 1876.

T. W. Keith,
Accountant.

58. The annual payments on account of guaranteed interest, and the amount paid by the companies in reduction of the same during the last seven official years, have been as follows. These figures vary slightly from those in the preceding page, which apply to the natural, while these apply to the official year.

Financial Year.	Guaranteed Interest.	Net Traffic Receipts less half surplus profits.	Net Charge.
	£	£	£
1869–70	4,176,008	2,628,944	1,547,064
1870–71	4,391,592	2,556,781	1,834,811
1871–72	4,592,166	2,868,948	1,723,218
1872–73	4,658,401	2,547,900	2,110,501
1873–74	4,667,906	3,230,554	1,437,352
1874–75	4,693,884	3,449,322	1,244,562
1875–76 partly estimated.	4,686,996	3,685,000	1,001,996

STATEMENT showing the REVENUE from the INDIAN RAILWAYS in

Railway.		Receipts.			
		Passengers.	Goods.	Miscellaneous.	Total.
		£	£	£	£
East Indian, Main Line -	1875	801,311	1,622,681	85,671	2,509,663
" " -	*1874*	*742,416*	*2,350,949*	*94,280*	*3,187,645*
" Jabalpur Line -	1875	77,300	92,198	15,550	185,048
" " -	*1874*	*68,696*	*131,146*	*35,195*	*235,037*
Great Indian Peninsula -	1875	478,530	1,457,666	36,888	1,973,084
" " -	*1874*	*438,544*	*1,369,990*	*40,013*	*1,848,547*
Madras - - -	1875	226,049	344,523	18,820	589,392
" - - - -	*1874*	*226,369*	*295,011*	*20,049*	*541,429*
Bombay, Baroda, and Central India - - -	1875	228,348	343,382	13,724	585,454
" - - - -	*1874*	*203,382*	*304,580*	*29,068*	*537,020*
Sind, Punjab, and Delhi -	1875	221,458	269,824	20,653	511,935
" " " - -	*1874*	*199,274*	*375,638*	*44,276*	*619,188*
" Indus Steam Flotilla	1875	5,817	78,525	617	85,029
" " " -	*1874*	*5,259*	*71,163*	*552*	*76,974*
South Indian (amalgamation of Great Southern of India and Carnatic Railway Companies) -	1875	54,228	44,393	4,732	103,353
Great Southern and Carnatic for 1st half of - - -	*1874*	*23,586*	*18,001*	*1,184*	*42,771*
South Indian for 2nd half of -	*1874*	*27,192*	*19,939*	*1,282*	*48,413*
Eastern Bengal - - -	1875	110,298	146,472	39,048	295,818
" " - -	*1874*	*99,033*	*211,519*	*55,379*	*365,931*
Oude and Rohilkhund - -	1875	137,585	130,602	6,985	275,122
" " - -	*1874*	*109,283*	*87,933*	*3,186*	*200,402*
Totals for Guaranteed Railways	1875	2,340,994	4,530,266	242,638	7,113,898
	1874	*2,143,034*	*5,235,869*	*324,454*	*7,703,357*
STATE.					
Calcutta and South-eastern -	1875	6,354	2,854	1,157	10,365
" " -	*1874*	*5,309*	*2,481*	*1,330*	*9,120*
Nalhati - - -	1875	5,324	2,566	52	7,942
" - - - -	*1874*	*4,830*	*2,836*	*137*	*7,803*
Rajputana - - -	1875	61,730	108,378	4,620	174,728
" - - - -	*1874*	*22,847*	*33,746*	*5,104*	*61,697*
Wardha Valley - - -	1875	395	2,240	39	2,674
" " - - -	*1874*	*316*	*1,576*	*35*	*1,927*
Holkar's - - -	1875	7,829	23,513	603	31,945
" - (11 months)	*1874*	*4,368*	*5,261*	*690*	*10,319*
Nizam's - - -	1875	25,136	20,204	174	45,514
" - - -	*1874*	*6,977*	*3,480*	*51*	*10,508*
Punjab, Northern - -	1875	9,704	4,364	208	14,276
Tirhut - - - - -	1875	686	783	9	1,478
BERAR.					
Amraoti - - -	1875	740	4,670	16	5,426
" - - - -	*1874*	*702*	*2,063*	*21*	*2,786*
Khamgaon - - -	1875	151	3,671	11	3,833
" - - -	*1874*	*156*	*2,299*	*12*	*2,467*
Totals for State Railways -	1875	118,049	173,243	6,889	298,181
	1874	*45,505*	*53,742*	*7,380*	*106,627*
Grand Total for all Railways -	1875	2,459,043	4,703,509	249,527	7,412,079
	1874	*2,188,539*	*5,289,611*	*331,834*	*7,809,984*

1874 and 1875, as given in the Accounts passed by Government.

Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
Maintenance.	Working, &c.	Total.		
£	£	£		£
226,435	736,619	963,054	38	1,546,609
203,420	*922,303*	*1,125,723*	*35*	*2,061,922*
38,654	68,672	107,326	58	77,722
16,889	*83,192*	*100,081*	*43*	*184,956*
158,742	774,044	932,786	47	1,040,298
193,996	*899,823*	*1,093,819*	*59*	*754,728*
152,016	262,188	414,204	70	175,188
112,126	*237,998*	*350,124*	*64*	*191,305*
81,378	237,165	318,543	54	266,911
49,340	*230,538*	*279,878*	*52*	*257,142*
79,060	248,996	328,056	64	183,979
77,509	*271,162*	*348,671*	*56*	*270,517*
13,399	55,988	69,387	81	15,642
18,467	*53,660*	*72,127*	*93*	*4,847*
7,698	42,076	49,774	48	53,579
5,568	*21,304*	*26,872*	*62*	*15,899*
5,849	*22,648*	*28,497*	*58*	*19,916*
54,657	135,424	190,081	64	105,687
39,303	*158,907*	*198,210*	*54*	*167,721*
33,015	131,258	164,273	59	110,849
30,407	*98,675*	*129,082*	*64*	*71,320*
845,054	2,692,430	3,537,484	49	3,576,514
752,874	*3,000,210*	*3,753,084*	*48*	*3,950,273*
2,014	6,329	8,343	80	2,022
1,643	*5,500*	*7,145*	*78*	*1,975*
1,811	4,327	6,138	77	1,804
1,135	*4,110*	*5,245*	*67*	*2,558*
33,180	78,066	111,246	63	63,482
15,028	*34,670*	*49,698*	*80*	*11,999*
697	2,170	2,867	107	Loss 193
512	*1,510*	*2,022*	*105*	Loss *93*
3,234	27,352	30,586	95	1,359
1,704	*6,984*	*8,688*	*84*	*1,631*
16,132	35,709	51,841	113	Loss 6,327
2,197	*7,688*	*9,885*	*94*	*623*
1,992	6,066	8,058	56	6,218
506	581	1,087	73	391
320	3,808	4,128	76	1,298
361	*3,392*	*3,753*	*134*	Loss *967*
280	2,253	2,533	66	1,300
278	*1,724*	*2,002*	*81*	*465*
60,166	166,661	226,827	76	71,354
22,860	*65,578*	*88,438*	*82*	*18,189*
905,220	2,859,091	3,764,311	50	3,647,868
775,734	*3,065,788*	*3,841,522*	*49*	*3,968,462*

TRAFFIC AND WORKING.

59. In considering the traffic returns for the past year and, more especially, while comparing the results with those of the previous year, certain exceptional circumstances should be borne in mind. The passenger traffic was, in the latter end of the year under review, augmented by the concourse of people which assembled at various places to greet His Royal Highness the Prince of Wales: the railways in Bengal and the North-West Provinces will suffer in comparison with the year 1874, in consequence of the unusual accession of traffic in that year through the transport of grain both from up and down country to the famine-stricken districts: and the depressed state of trade has had an injurious effect generally upon the traffic of all the lines. It must also be remarked, in reference to the net returns, that a large item of expenditure during the past year was for repairs, restorations, and increased protective works in consequence of the damage done by floods, and that doubts may be entertained as to whether the whole of the sum expended during the year on such operations was strictly a proper charge against revenue. At any rate, the effect has been to enlarge considerably the expenditure on revenue account.

60. The passenger traffic, it will be seen, increased 10·28 per cent. in numbers, and 12·30 per cent. in receipts, compared with the previous year. The proportion per cent. of first class was ·78, of second class 2·30, and of the lower classes 96·92.

61. The actual increase in the number of passengers was 2,498,978. In 1873 they reached 23,557,605; in 1874, 24,280,459; and in 1875, 26,779,437. The open mileage over which the passengers were carried in 1873 averaged 5,711; in 1874, 5,597; and 6,298 in 1875. The increase last year was distributed over the different lines, the chief share falling to the Oudh and Rohilkund (388,000), the Bombay, Baroda, and Central India (347,000), the East Indian (279,000), and Great Indian Peninsula (210,000). About 580,000 were carried over the newly opened State lines in the Punjab and Rajpootana.

62. The receipts from passengers, including 235,680*l.* from excess luggage, parcels, horses, &c.; 81,270 from troop-trains, and 7,846*l.* for mail service; were 2,459,618*l.*, compared with 2,183,015*l.* of the previous year, and 2,194,607*l.* of 1873. The first class brought in 127,044*l.*, the second class, 114,507*l.*, and the lower classes, 1,832,882*l.* The first class increased 20,846*l.*, the second 11,517*l.*, and the third and fourth 182,772*l.* There was also an increase of 35,722*l.* in parcels, luggage, horses, &c. Some portion of this increase, as before hinted, must be laid down to the visit of His Royal Highness the Prince of Wales.

63. The goods traffic shows a falling off of 307,974 tons. This, as before mentioned, is in great measure due to the large quantities of grain, amounting to about 840,000 tons, which were taken to the districts where scarcity prevailed in 1874. The number of tons carried this year was 4,388,649, compared with 4,696,624 of the previous year. These figures include 579,974 and 687,450 tons of minerals respectively.

64. The receipts from goods amounted to 4,698,506*l.*, compared with 5,273,600*l.* of the previous year. The East Indian went back 337,639 tons in weight and 515,168*l.* in receipts, owing to the famine traffic of 1874. From the same cause the Sind, Punjab, and Delhi shows a falling off of 92,369*l.* The Great Indian Peninsula and the Bombay, Baroda, and Central India on the other hand show an improvement of 87,675*l.* and 55,075*l.* respectively.

65. The proportion per cent. of the gross revenue from goods was 65·67, and from passengers 34·33.

66. The number of miles travelled by trains during the year was, in consequence of the reduced traffic, necessarily less, being 17,950,312, compared with 18,475,322 of 1874; and the ton mileage, on the number of tons carried one mile, was 905,697,217, against 1,102,956,185.

67. The articles in which the greatest decrease took place were grain, seeds, rice and jute; while coal, sugar, salt, firewood, and wool showed an increase.

68. The most satisfactory feature on the side of improvement was salt. The opening of railway communication with the Patri and Sambhur Lakes, and the imposition of moderate rates have stimulated the traffic and brought a better and cheaper article to the consumer. A still further increase may be expected

if the supposed rival interests of different districts are not allowed to influence railway managers, and if low rates are uniformly levied. A very proper arrangement has recently been made on the Great Indian Peninsula Railway by which salt is registered and weighed at the stations instead of being sent to a central depôt, often distant from the line.

69. The expenses of maintaining and working the railways was 3,672,053*l.*, compared with 3,682,601*l.* The steam flotilla on the Indus in 1874, cost 73,646*l.*; in 1875, 67,870*l.* The outlay for maintenance is in several cases swelled by the heavy cost of repairs in consequence of the damage done by the floods during the second half of the year, and also by reserves from the revenue receipts for the same object. One great source of expense is the excessive amount of tare arising partly from the construction of the vehicles, and partly from the large number of "return empties." It is very desirable to meet this evil as far as possible, and to improve the carrying capacity of the waggon, by reducing its dead weight in proportion thereto. This has been done on the East Indian by increasing the strength of the axles, and a similar process is going on with the rolling stock of other lines. Economy may also be observed in other ways. The railways in Central and Western India will be aided in this direction by the supplies of native coal now about to be provided; but more may be done by internal management, whether it be by a proper system of effective maintenance, by the careful packing and loading of trains, by keeping down establishments at head quarters or at stations, or by general thrift and avoidance of waste. The prosperity of a railway commences with economical management; for the smaller the expenses the lower can be the rates, and the greater will be the traffic and general success.

70. This is clearly exemplified in the subjoined tables which Mr. Rendel has again prepared on the same basis as those furnished in former reports. It will be seen that the line which is most successful is that which charges less, which does its work for less than the others. The average sums received by the East Indian for carrying one passenger and one ton per mile were last year, on the main line, ·378*d.* and 1·013*d.* respectively. On the Great Indian Peninsula these sums were ·414*d.* and 1·498*d.*; on the Madras, ·374*d.* and 1·194*d.*; on the Bombay and Baroda, ·378*d.* and 1·38*d.*; on the Punjab and Delhi, ·355*d.* and 1·22*d.*; and on the Eastern Bengal, ·378*d.* and 1·236*d.* The average cost of carrying a passenger and a ton of goods one mile on the main line of the East Indian Railway, was ·17*d.* and ·324*d.* respectively. On the Great Indian Peninsula these figures were ·298*d.* and ·662*d.*; on the Madras, ·216*d.* and ·904*d.*; on the Bombay and Baroda, ·255*d.* and ·606*d.*; on the Punjab and Delhi, ·234*d.* and ·611*d.*; and on the Eastern Bengal, ·242*d.* and ·702*d.* The average net earnings from each passenger per mile carried were, on the East Indian, ·208*d.*; on the Great Indian Peninsula, ·116*d.*; on the Madras, ·158*d.*; on the Bombay and Baroda, ·123*d.*; on the Eastern Bengal, ·136*d.*; and on the Punjab, ·121*d.* The average net earnings from each ton per mile carried were, on the East Indian, ·689*d.*; on the Great Indian Peninsula, ·836*d.*; on the Madras, ·29*d.*; on the Bombay and Baroda, ·732*d.*; on the Eastern Bengal, ·534*d.*; and on the Punjab, ·609*d.* The unsatisfactory results on the Madras Railway are explained by the facts that the lowest average goods train load (49 tons compared with 117 on the East Indian Railway), and the highest cost of carrying a ton of goods one mile (·904*d.* compared with ·344*d.*) are found on that line.

RETURNS PREPARED BY MR. RENDEL.

"The returns given below are drawn up on the same principles as those given "in the Report for 1874, and need not be repeated; but the figures relating to "vehicle mileage are omitted in the present instance, nor are any returns given "for the Scinde section of the Scinde, Punjab, and Delhi Railway, that section "being small, and being entirely detached from the main portion of the line, and "not affecting, or being affected by, the general system of trunk lines."

(*a.*) Passenger Traffic.

	East Indian Railway.		Great Indian Peninsula.	Madras.	Bombay, Baroda, and Central India.	Punjab, and Delhi.	Eastern Bengal.
	Main.	Jubbulpore.					
Average length open, miles -	No. 1,220	No. 223¾	No. 1,266¼	No. 861·5	No. 420½	No. 553·5	No. 158
(1.) Receipts from passenger traffic.	£ 861,307	£ 77,397	£ 478,631	£ 226,049	£ 228,349	£ 310,631	£ 110,299
(2.) Passenger train miles run -	No. 2,244,749	No. 232,957	No. 1,529,189	No. 711,711	No. 563,845	No. 630,142	No. 245,223
(3.) Average passenger train mile receipts.	s. d. 7 1⅜	s. d. 6 7⅞	s. d. 6 8¼	s. d. 6 4½	s. d. 8 1½	s. d. 6 8	s. d. 9 0
(4.) Number of passengers carried one mile.	No. 508,760,000	No. 46,480,000	No. 277,403,698	No. 150,405,775	No. 144,984,000	No. 143,610,256	No. 70,031,120
(5.) Average sum received for carrying a passenger one mile.	d. ·378	d. ·399	d. ·414	d. ·374	d. ·378	d. ·351	d. ·378
(6.) Average number of passengers in a train at any one time.	No. 226	No. 199·5	No. 181·5	No. 211·25	No. 257	No. 228	No. 235
(7.) Average number of passenger trains per diem *each* way, supposing each train to traverse the whole line open.	No. 2·4	No. 1·424	No. 1·65	No. 1·13	No. 1·8	No. 1·56	No. 2·13
(8.) Average number of passengers passing over each mile of line daily (both ways).	No. 1,089	No. 568	No. 600	No. 478	No. 924	No. 710	No. 1,314
(9.) Total working expenses for both goods and passengers, deducting telegraph special and miscellaneous and demurage receipts from them.	£ 874,798	£ 91,714	£ 987,511	£ 394,917	£ 304,294	£ 230,025	£ 154,491
(10.) Average cost of running a train mile, passenger and goods miles assumed to cost the same.	s. d. 3 2·14	s. d. 4 1·4	s. d. 4 6·1	s. d. 3 8½	s. d. 5 5½	s. d. 4 5½	s. d. 5 9
(11.) Average cost of carrying a passenger one mile.	d. ·17	d. 248	d. ·298	d. ·216	d. ·255	d. ·234	d. ·242

(*b.*) Goods Traffic.

Average length open, miles -	No. 1,220	No. 223¾	No. 1,266¼	No. 861·5	No. 420½	No. 553·5	No. 158
(1.) Receipts from goods traffic -	£ 1,620,698	£ 92,136	£ 1,463,384	£ 344,057	£ 342,356	£ 178,382	£ 145,890
(2.) Goods train miles run -	No. 3,250,325	No. 212,757	No. 2,863,009	No. 1,416,048	No. 551,322	No. 461,386	No. 288,399
(3.) Average goods train mile receipts.	s. d. 9 11¼	s. d. 8 8	s. d. 10 2·3	s. d. 4 10·3	s. d. 12 5½	s. d. 8 10⅝	s. d. 10 1½
(4.) Tons of goods carried one mile.	No. 383,683,600	No. 19,547,400	No. 233,024,150	Tons. 69,157,186	No. 59,627,130	Tons. 35,153,680	No. 28,328,160
(5.) Average sum received for carrying one ton one mile.	d. 1·013	d. 1·142	d. 1·498	d. 1·194	d. 1·38	d. 1·22	d. 1·236
(6.) Average number of tons in a goods train at one time.	No. 117·7	No. 90·9	No. 81·7	No. 40	No. 108	Tons. 87·5	No. 98·25
(7.) Average number of goods trains per diem each way, supposing each train to run over the whole line open.	No. 3·49	No. 1·3	No. 3·1	No. 2·25	No. 1·75	No. ·993	No. 2·5
(8.) Average number of tons of goods passing over each mile of line daily (both ways).	No. 821	No. 237	No. 504	No 220	No. 380	No. 174	No. 491
(9.) Total working expenses for both goods and passengers, deducting from them telegraph, special and miscellaneous and demurage receipts.	£ 874,798	£ 91,714	£ 987,511	£ 394,917	£ 304,294	£ 230,025	£ 154,491
(10.) Average cost per train mile, goods and passenger miles assumed to cost the same.	s. d. 3 2·14	s. d. 4 1·4	s. d. 4 6·1	s. d. 3 8½	s. d. 5 5½	s. d. 4 5½	s. d. 5 9
(11.) Average cost of carrying a ton of goods one mile.	d. ·324	d. ·543	d. ·662	d. ·904	d. ·606	d ·611	d. ·702

" From the foregoing the following may be gathered, namely, that the highest average passenger train load (285 persons), was obtained on the Eastern Bengal; the lowest (181·5 persons), occurred on the Great Indian Peninsula Railway. The highest average goods train load (117·7 tons), was obtained on the East Indian Railway; the lowest (49 tons), is found on the Madras line.

" The lowest cost per train mile (3*s.* 2·14*d.*) is found on the East Indian, Main Line; the highest (5*s.* 9*d.*) on the Eastern Bengal.

" The lowest cost of carrying a passenger one mile (·17*d.*) is found on the East Indian, Main Line; the highest (·298*d.*) on the Great Indian Peninsula Railway.

" The lowest cost of carrying a ton of goods one mile (·344*d.*) is found on the East Indian, Main Line; the highest (·904*d.*) on the Madras line.

" The lowest average charge for carrying a passenger one mile (·351*d.*) is found on the Punjab line; the highest (·414*d.*) on the Great Indian Peninsula.

" The lowest average charge for carrying a ton of goods one mile (1·013*d.*) is found on the East Indian, Main Line; the highest (1·498*d.*) on the Great Indian Peninsula.

" The largest passenger traffic (1,214 persons passing over each mile per diem on the average) is found on the Eastern Bengal; the lowest (478) on the Madras.

" The largest goods traffic (821 tons passing over each mile per diem on the average) is found on the East Indian, Main Line; the lowest (174 tons) on the Punjab line."

FARES and RATES in use on the INDIAN RAILWAYS.

Railway.	Passengers. Fare for travelling One Mile. First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Goods. Rate for conveying One Ton One Mile. Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special.
GUARANTEED.	pies.*	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.
East Indian, Main Line.	18	9	4½	3	—	9·073	13·61	18·146	22·685	27·221	From 4·54 to 9·073.
East Indian, Jubbulpore Line.	18	9	4½	3	—	9·073	13·61	18·146	22·685	27·221	From 5·44 to 9·073.
Great Indian Peninsula.	18	9	—	4	2½	10	14	24	34	48	From 5·5 to 8.
Madras	15	6½	—	3½	2	12	14	18	24	36	From 4 to 10.
			Third Mail	Class. Ordinary							
Bombay, Baroda, and Central India.	15	7	4	3	—	10	15	21	30	42	Up to 8.
Sind, Punjab, and Delhi.	18	9	4½	3	—	9·07	13·61	18·14	22·66	27·22	6·80.
South Indian	8	3	—	2	—	12	14†	18†	24	36 to 54	6 to 10.
Eastern Bengal	12	6	—	4½	3	9·33	14	18·66	28	56	9·45 to 10·28.
	Upper	Upper Reserved Cmptmnt.	Lower	L. Reservd. Cmptmnt.	Lower Reserved						
Oude and Rohilkund	9	36	2	16 & 24	3	9·08	13·62	18·16	22·70	27·25	5·40 to 6·80.
STATE.	Upper	Lower	Special								
Calcutta and South-Eastern.	9	3	2	—	—	—	—	—	—	—	—
Nalhati	28·13	14·07	—	7·06	4·62	12·71	21·72	30·3	52·79	84·5	8·16.
Amraoti	18	9	—	4	2½	10	14	24	34	48	5·5 to 8.
Khamgaon	18	9	—	4	2½	10	14	24	34	48	"
Rajputana	10·38	4·61	—	2·03	—	13·14	17·83	25·85	—	—	3 to 12.
Wardha Valley	18	9	—	4	2½	10	14	24	34	48	5·5 to 8.
Holkar's	11·8	4·42	—	2·21	—	13·26	19·90	26·53	—	—	8·29.
Punjab, Northern	9·29	4·64	—	1·74	—	10·53	15·80	21·06	—	—	5·26 to 5·45.
Tirhut	13	4·3	—	2·1	—	9·9	14·8	19·8	—	—	5 to 6.
Nizam's	18	9	—	4	2½	10	14	24	34	48	5·5 to 8.

* 8 pies = 1*d.*

† Rates only in force during the early months of the year.

STATEMENT showing the COST and CONSUMPTION of FUEL at the Point of DELIVERY on the respective LINES during the Year 1875.

Railway.	Coal.							Coke.						Patent Fuel.					Wood.				
	Quantity in Tons.	Total Cost.		Cost per Ton.	Consumption.			Quantity in Tons.	Total Cost.	Cost per Ton.	Consumption.			Quantity in Tons.	Total Cost.	Cost per Ton.	Consumption.		Quantity in Tons.	Total Cost.	Cost per Ton.	Consumption.	
					Per Train Mile in lbs.	Per Vehicle per Mile.					Per Train Mile in lbs.	Per Vehicle per Mile.					Per Train Mile in lbs.	Per Vehicle per Mile.				Per Train Mile in lbs.	Per Vehicle per Mile.
		£ s. d.		£ s. d.					£ s. d.	£ s. d.					£ s. d.	£ s. d.				£ s. d.	£ s. d.		
East Indian, Main Line	118,531	40,521 0 0		0 6 10	48·23														11	6 1 8	0 11 0·64	lbs.	lbs.
„ Jabalpur Line.	8,828	11,617 1 5		1 6 4	44·36																		
Great Indian Peninsula	86,596	168,419 17 8		1 18 11	44·26	2·12		1,487	3,881 7 5	2 12 2	·76	·04							2,172	1,068 7 6	0 9 10	1·11	·05
Madras - -	12,718	35,819 0 0		2 16 4				409	1,240 0 0	3 0 7				553	1,223 0 0	2 4 3							
Bombay, Baroda, and Central India.	20,290	43,759 0 0		2 3 1	39·24	1·59		263	595 0 0	2 5 3	·51	·2		3,981	8,955 0 0	2 4 11	7·69	·31	68,418	28,097 0 0	0 8 2		
Sind, Punjab, and Delhi.	16,506	36,751 2 5		2 4 6	27·46	1·033													466	242 0 0	10 10 4	·90	·03
South Indian - -	4,534	8,757 4 2		1 18 8	28·5	1·57		4	15 1 1	3 15 3	·03	·001		8	24 2 9	3 0 4	·01	·0005	16,735	7,426 17 10	0 8 10	27·85	1·047
Eastern Bengal -	12,274	9,652 7 7		0 15 8	51·52			50	27 3 0	0 10 9	·21								5,170	2,742 18 6	0 10 7	32·5	1·81
Oudh and Rohilkund -	1,484	2.304 0 0		1 11 0	3·30	·04													40,470	18,744 0 0	0 9 3	90·16	10·20
Totals for guaranteed Railways.	281,761	357,600 13 3						2,213	5,758 11 6					4,542	10,202 2 9				133,442	58,327 5 6			
STATE.																							
Calcutta and South-Eastern.	1,183	1,076 18 0		0 18 2	66·71	3·54													7	3 14 0	0 10 7	0·39	·21
Nalhati - -	516	514 6 0		0 19 11	37·91	3·51																	
Rajputana - -	8,556	21,263 13 11		2 9 8	34·55	1·64		32	87 12 9	2 14 7	·12	·006							78	124 0 3	1 11 7	·32	·015
Wardha Valley -	196	372 0 0		1 18 0	78·6	4·33													5	2 10 0	0 10 0	2·00	·11
Holkars - -	8	36 12 0		4 11 6															4,194	1,862 10 0	0 8 11	65·36	3·8
Punjab, Northern -																			1,127	642 15 8	0 11 6	54	2·84
Tirhut - -	88	62 0 0		0 14 0	1·4	2·5																	
Nizam's - -	2,603	5,924 15 0		2 5 6	41·51	1·85																	
BERAR.																			61	27 10 0	0 9 0	·97	·04
Amraoti - -	149	350 0 0		2 7 0	63·6	4·29													11	5 0 0	0 9 1	4·70	·32
Khamgaon - -	100	237 5 0		2 7 5	57·5	3·17													11	5 0 0	0 9 1	6·32	·35
Total for all Railways -	295,160	387,438 3 2						2,245	5,846 4 3					4,542	10,202 2 9				138,936	61,000 5 5			
Indus Steam Flotilla -																			43,718	18,632 7 11	0 8 6		
Totals for Railways and Flotilla.	295,160	387,438 3 2						2,245	5,846 4 3					4,542	10,202 2 9				182,654	79,633 3 4			

STATEMENT showing the QUANTITIES of the principal Articles of MERCHANDISE, &c., carried on the INDIAN RAILWAYS in 1874 and 1875.

Articles.	East Indian, Main Line.		East Indian, Jabalpur Line.		Great Indian Peninsula.		Madras.		Bombay, Baroda, and Central India.		Sind, Punjab, and Delhi.		Eastern Bengal.		Oude and Rohilkund.		South Indian.	
	1875.	1874.	1875.	1874.	1875.	1874.	1875.	1874.	1875.	1874.	1875.	1874.	1875.	1874.	1875.	1874.	1875.	1874.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	See piece goods.		—	—	4,786	See piece goods.	5,799	5,783	See piece goods.		555	434	—	—	—	—	2,312	2,152
Coal	515,904	505,519	9	2,506	1,758 including coke.	917	494	324	1,576	2,742	730	507	4,443	8,643	1,986	1,402	—	—
Cocoa-nuts	See dried fruits.		—	—	10,362	9,625	2,991	2,401	4,529	3,763	See dried fruits.		—	—	—	—	—	—
Coffee	—	—	—	—	—	—	4,940	4,834	21	29	50	46	—	—	—	—	—	—
Cotton	33,867	21,347	1,676	1,491	101,280	110,700	30,602	20,796	50,139	46,248	9,407	5,605	505	471	6,274	4,401	—	—
Dried Fruits	5,430	5,081	2,911	2,737	13,867	12,444	—	—	5,374	3,807	6,974	6,232	—	—	—	—	—	—
Firewood	13,552	12,346	11,530	8,817	34,977	25,741	11,529	9,588	5,534	8,025	14,121	14,848	—	—	12,002	3,707	—	—
Grain	69,686	340,248	18,114	63,639	215,784	232,036	24,117	33,688	44,384	32,188	65,700	244,988	14,271	15,241	75,301	39,439	41,940	36,940
Green Fruits and Vegetables	—	—	—	—	14,029	12,336	5,187	5,537	8,968	12,988	3,145	2,209	—	—	1,668	1,450	2,496	3,513
Hides	19,170	22,913	1,462	885	5,573 including horns.	2,693	9,113	6,152	701	638	2,734	2,734	6,184	5,335	2,118	2,179	1,213	807
Iron	39,875	60,720	3,769	4,348	—	—	8,992	6,817	See metal.		9,960	7,899	34	28	—	—	—	—
Jagree and Sugar	65,496	50,686	22,203	20,146	25,686	20,958	14,169	13,427	27,909	22,223	36,906	29,778	7,389	8,058	40,712	17,548	—	—
Jute	620	1,016	231	265	—	—	—	—	—	—	Included in hemp & flax.		94,694	112,407	319	570	—	—
Metal and Hardware	—	—	—	—	18,465	39,176	—	—	7,800	5,809	1,870	1,829	667	620	3,618	4,763	—	—
Military Stores	21,157	14,488	1,343	886	7,591	7,366	3,556	4,197	1,665	1,677	11,068	10,553	212	684	7,032	3,271	—	—
Oil	3,517	3,086	86	66	10,115	9,259	6,758	5,970	1,422	1,342	Included in ghee and oil.		—		648	630	2,123	1,335
Opium	6,531	7,648	—	—	3,426	4,311	—	—	1,254	902	Included in drugs and medicine.		16	21	523	332	—	—
Piece Goods	47,149	44,872	5,030	4,755	12,595	16,278	—	—	7,689	7,280	9,903	9,827	10,263	10,239	3,691	4,930	—	—
Rice	110,057	449,978	2,051	1,792	See grain.		75,118	63,742	See grain.		Included in edible grain.		22,840	101,452	—	—	—	—
Salt	143,919	123,182	6,609	5,214	70,572	65,802	47,996	43,051	38,246	32,117	11,055	11,344	3,776	3,117	36,603	24,734	11,570	11,401
Seeds	159,714	129,586	11,296	9,570	112,785	63,801	16,921	15,029	28,528	8,968	60,184	28,453	22,081	35,623	10,305	7,153	7,508	6,251
Silk	718	664	118	71	697	452	—	—	See piece goods.		122	138	117	222	—	—	—	—
Timber	13,917	19,154	6,401	1,033	22,406	15,569	17,327	14,797	8,981	7,691	3,719	6,217	—	—	18,838	17,022	—	—
Tobacco	8,930	9,508	1,064	1,354	3,677	3,313	6,127	6,352	8,100	7,537	947	935	9,017	14,532	557	352	892	944
Twist	2,729	1,869	383	264	5,708	4,928	4,389	4,095	2,183	1,573	1,280	743	—	—	625	693	—	—
Wines, Spirits, &c.	8,979	7,135	398	439	4,001	4,254	2,930	1,923	619	630	2,717	2,645	381	189	2,455	2,704	—	—
Wool	—	—	—	—	211	162	—	—	2,185	1,950	5,798	3,963	—	—	—	—	—	—

STATEMENTS relating to the PASSENGER and GOODS TRAFFIC and the GROSS

TABLE No. 1.—STATEMENT of TRAFFIC on the INDIAN

Railway.	Actual Number of Miles open on 31st December, and Average Number of Miles of Open Line during 1875.						Number of Miles of Sidings on 31st December 1875.	Passenger Traffic.						
	Double.		Single.		Total			Number of Passengers (*exclusive of* Holders of Season and Periodical Tickets).						Number of Holders of Season and Periodical Tickets.
	Actual.	Average.	Actual.	Average.	Actual.	Average.		By First Class.	By Second Class.	By Intermediate Class.	By Third Class.	By Fourth or Coolie Class.	Total by all the Classes.	
GUARANTEED.														
East Indian, Main Line	410½	410½	869½	869½	1,279½	1,279½	281	44,911	110,620½	426,871½	5,486,925½	—	6,069,328½	8,676½
East Indian, Jabalpur Line	—	—	223½	223½	223½	223½	21½	4,484½	16,512	5,956½	237,142½	—	264,095½	—
Great Indian Peninsula	327½	327½	939	939	1,266½	1,266½	203½	27,457	109,321	—	903,928	2,299,552	3,340,238	890
Madras	3½	3½	858	858	861½	861½	90½	13,244	51,974	—	1,832,393½	837,966	2,735,577½	93
Bombay, Baroda, and Central India	23½	23½	407	407	430½	430½	73	20,909	174,343	—	Third Class Mail 354,217	Third Class Ordy. 3,534,860	4,084,329	5,270
Sind, Punjab, and Delhi	4½	4½	659	659	663½	663½	103½	17,502	42,442	20,236½	2,173,067	—	2,253,247½	—
South Indian	—	—	283	217	283	217	22	3,570½	24,061½	—	1,529,100	—	1,556,732	4
Eastern Bengal	—	—	167½	158 1/13	167½	158 1/13	39½	32,185½	53,593	—	367,625	1,256,832½	1,710,236	2,533
Oudh and Rohilkhand	—	—	544½	544	544½	544	49½	Upper 18,398	—	—	Lower 2,363,839½	—	2,382,237½	—
STATE.														
Calcutta and South-eastern	—	—	28	28	28	28	6½	Upper 3,157	—	—	Lower 485,106½	—	489,263½	—
Nalhati	—	—	27½	27½	27½	27½	7½	577	2,253½	—	22,405	55,829½	81,065	—
Amraoti	—	—	6	6	6	6	¾	609	1,993	—	53,024	64	55,690	—
Khamgaon	—	—	8	8	8	8	½	176	388½	—	4,178	3,721	8,463½	—
Nizam's	—	—	121	121	121	121	7	2,616	8,633	—	33,998	219,979½	265,226½	13
Wardha Valley	—	—	19	19	19	19	—	200	291½	—	1,440½	11,457	13,389	—
Tirhut	—	—	44	—	44	—	4½	197	466	—	13,740	—	14,403	—
Punjab, Northern	—	—	62	44½	62	44½	4	1,500	4,285	—	259,390	—	265,175	—
Rajputana	—	—	378½	344½	378½	344½	29½	2,789	10,401	—	935,663	—	998,853	10
Holkar's	—	—	57	55½	57	55½	8	986	6,002	—	175,340	—	182,328	—
Totals for Railways	769	769	5,692½	5,529 1/13	6,461½	6,298 1/13	946½	195,442½	617,580½	452,764½	17,283,523	8,220,261½	26,769,578	17,489½
Indus Steam Flotilla	—	—	—	—	575	575	—	244	219	—	9,396½	—	9,859½	—
Totals for Railways and Flotilla					7,036½			195,692½	617,799½		17,292,919½		26,779,437½	

RECEIPTS and EXPENSES for the Year ended 31st December 1875.

RAILWAYS during the Year ended 31st December 1875.

Number of Live Stock.	Goods Traffic.									
	Number of Tons of Minerals.			Number of Tons of General Merchandise.						
	Number of Tons of Coal and Coke.	Number of Tons of all other Minerals.	Total Number of Tons of Minerals.	Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special and Sundry.	Total of all Classes.
5,383	515,904	—	515,904	750,412	133,481	47,747	23,387	3,613	75,409	1,034,049
71	9	—	9	102,529	13,590	6,629	1,640	217	4,066	128,652
274,369	577	—	577	449,408	169,650	80,875	33,490	4,090	256,832	944,855
15,372	—	—	—	156,815	59,778	24,755	8,448	4,720	160,011	414,527
200,551	1,676 27,169*	18,376*	47,121	93,484	49,537	47,211	1,134	1,826	201,303	394,495
455	1,055	—	1,055	151,240	54,316	25,037	15,974	2,558	133,960	382,094
6,707	—	—	—	74,689	64	16	1,378	77	45,026	121,245
2,047	4,442	3,902	8,344	31,657	37,464	8,295	1,676	202	162,779	237,073
32	1,986	—	1,986	84,194	12,315	11,898	4,322	527	184,220	297,476
111	42	—	42	—	—	—	—	—	32,095	32,095
—	4,797	—	4,797	2,417	1,082	1,113	431	23	1,839	6,905
—	—	—	—	9,346	16,385	1,034	146	70	—	26,981
—	—	—	—	4,633	19,460	150	42	4	—	24,279
512	—	—	—	28,926	5,309	2,767	287	175	—	37,464
—	—	—	—	6,882	7,479	141	23	3	—	14,528
—	—	—	—	3,103	369	64	—	—	24	3,560
—	—	—	—	7,116½	1,259½	223½	—	—	8,014½	16,613½
11	139	—	139	133,079	4,411	1,362	—	—	23,318	162,170
—	—	—	—	46,860	3,755	2,911	—	—	14,586	68,112
505,621	557,696	22,278	579,974	2,136,781½	580,094½	267,267½	92,283	18,705	1,311,491½	4,347,183½
—	—	—	—	—	—	—	—	—	—	41,466
										4,388,649½

* On Company's account.

STATEMENT of TRAFFIC on the INDIAN RAILWAYS

Railway.	Number of Engines and Vehicles used in conveying Traffic.								Average Number of Vehicles in each Train.				Number of Miles in shunting		
	Engines.	Carriages. First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth Class.	Total Number.	Trucks.	Carriages in each Passenger Train.	Trucks in each Goods Train.	In each Mixed Passenger and Goods Train. Carriages.	Trucks.	By Passenger (including Special and Troop) Trains.	By Goods (including Construction Materials for other Railways) Trains.	By Mineral Trains.
GUARANTEED.															
East Indian, Main Line, 1st half	414	73	86	31	324	—	564	5,380	16½	28¾	16½	9¼			
2nd „	393	73	86	103	324	—	586	5,335	16½	28¾	15¾	7¼	1,207,043	2,653,789½	210,858½
„ Jabalpur Line	36	1st half 8	14	4	30	—	56	881	14½	23¾	7½	19			
	36	2nd „ 8	14	4	30	—	56	881	14½	23¾	7¾	18¾	172,288½	109,870½	11½
Great Indian Peninsula	331	79	146	composite 37	369	67	748	6,760	14½	26½	10½	15	1,301,185	2,489,504	—
Madras	96	26	58	composite 33	200	38	355	2,872	9	19	6	10	28,204	522,133	—
Bombay, Baroda, and Central India	62	13	25	composite 16	144	—	198	2,516	9½	43	9½	14	458,190	395,423½	—
Sind, Punjab, and Delhi	59	38	51	20 Royal saloon carriages	205	—	314	2,865	13¾	34	11½	18¾	479,010	457,969½	—
South Indian	60	33	13	3	139	—	248	964	—	—	23		—	—	—
Eastern Bengal	43	31	16	—	37	56	140	702	14	40	4	31	192,483½	145,304½	—
Oudh and Rohilkhand	50	Upper 19	—	composite 21	Lower 209	—	249	820	11	19	10	11	11,240	128,888	—
STATE.															
Calcutta and South-eastern	6	Upper 9	—	—	Lower 52	—	61	261	—	—	8	10	—	—	—
Nalhati	5	2		1		5	8	17	—	—	6	7	—	—	—
Amraoti	2	—	—	composite 1	2	2	5	33	—	22	5	10	12	144	—
Khamgaon	2	—	—	composite 1	2	2	5	33	—	22	3	14	—	648	—
Nizam's	5	4	6	composite 1	10	10	31	70	11	22	12	14	10,630	41,132	—
Wurdha Valley	1	—	—	composite 1	2	2	5	23	12	14	4	14	—	2,204	—
Tirhut	6	3	1	—	7	—	11	91	—	23	8	9	44	1,452	—
Punjab, Northern	9	8	4	—	31	—	43	104	—	—	13	6	—	—	—
Rajpootana	51	22	11	—	83	—	116	805	15	25	11	9	4,205	125,603	—
Holkar's	17	6	5	—	30	break vans 3	44	255	12	19	6	11	43,402	87,183	—
Totals													3,908,020½	7,161,259	210,974½

during the Year ended 31st December 1875—*continued.*

travelled by Trains (except piloting, and assisting).					Number of Ton Miles (expressed in the Number of Tons moved One Mile).											
						Goods Traffic.										
By Mixed Passenger and Goods Trains.		By Trains conveying Materials for Revenue Purposes.	Total Number of Train Miles.	Number of Train Miles per open Mile.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Minerals.	General Merchandise.							Total Mineral and General Merchandise.	Proportion of Up and Down Traffic.	
							First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Special and Sundry.	Total of all Classes.		Up.	Down.
(P.)	(G.)															
1,037,706½	395,177½	109,265½	5,613,840	4,386·67	Lug. and parcels. 2,572,258 carrs., &c. 1,363,985	88,215,046	181,300,106	55,091,398	16,995,989	8,240,614	1,334,622	32,393,421	295,274,550	383,489,596	43·43	56·57
60,669	102,769½	2,467½	448,181½	2,003·05	Lug. and parcels. 420,695 carrs., &c. 103,479	2,066	14,130,382	2,732,771	1,291,879	352,842	46,728	809,333	19,343,930	19,345,996	48·17	51·83
223,004	363,505	—	4,382,198	3,461	—	84,588	119,928,325	52,291,764	9,871,288	7,546,432	1,488,129	41,173,623	231,799,561	231,884,149	66	34
683,507	893,915	—	2,127,759	2,480	1,144,078	—	25,824,179	8,771,782	4,149,754	1,768,537	583,528	27,452,187	68,469,967	68,469,967	60·37	39·63
105,655½	156,892½	48,059	1,158,225½	2,692	Luggage only. 293,184	5,765,728	15,817,493	10,286,842	11,750,491	215,612	479,098	18,851,958	57,401,494	63,167,222	55·59	44·41
226,413	100,602½	52,237½	1,346,232½	2,029	Luggage, &c. 665,511 No. of horses, carrs., &c. 11,406	220,433	18,895,756	8,792,192	5,695,776	2,145,771	411,625	17,367,487	51,308,607	51,529,040	64	36
345,054		11,541	356,595	1,646	105,057	—	4,785,646	1,223	310	127,745	3,068	3,849,197	8,767,189	8,767,189	54	66
52,752	148,094	—	533,636½	3,372	268,637	398,651	2,383,982	4,770,668	379,251	195,937	24,623	20,172,490	27,926,956	28,325,607	17·78	82·22
409,024	409,024	47,237	1,005,413	1,846	387,784	63,663	5,343,050	1,330,795	1,329,884	524,870	58,581	20,335,068	28,923,148	28,991,711	—	—
21,665	18,055	98	39,818	1,422	3,151	733	—	—	—	—	—	747,334	747,334	748,117	99·08	0·92
12,361	18,129	435	30,925	1,135	7,783	130,051	58,294	22,275	29,980	11,581	632	59,114	179,835	310,536	78·82	21·18
2,233	2,355	—	5,244	874	—	—	56,307	99,033	6,223	879	421	—	162,863	162,863	—	—
823	2,425	—	3,896	487	—	—	37,309	156,837	1,212	340	26	—	195,724	195,724	—	—
42,262	39,431	—	140,455	1,161	—	—	2,459,206	547,212	250,697	29,384	18,171	—	3,304,670	3,304,670	—	—
882	2,500	—	5,586	294	—	—	131,513	143,069	2,711	433	58	—	277,784	277,748	—	—
3,067	2,301	—	6,864	156	1,232	—	119,195	15,833	2,708	—	—	1,050	138,707	138,797	39·9	60·3
32,146½	14,836½	—	46,983½	757½	Luggage, &c. 21,352 Carriages, horses, &c. 50,488	—	276,476½	67,835½	120,146	—	—	64,133½	528,391½	528,391½	53·13	53·13
215,426	177,508	31,090	554,737	1,622	192,506	20,453	11,846,939	455,523	167,654	—	—	418,408	12,378,524	12,398,977	46·96	53·04
2,155	2,633	8,259	143,722	2,521	36,381	—	2,381,373	152,559	137,933	—	—	459,016	3,130,881	3,130,881	9·87	90·13
3,143,751	2,844,654½	336,689½	17,950,312		7,226,461	94,906,962	405776431½	145776431½	49,633,895	21,140 377	4,399,310	184144825½	810790255½	905697217½		
345,054																
6,333,459½																

TABLE No. 3.—GROSS RECEIPTS of the INDIAN RAILWAYS

Railway.	Passenger Traffic.													Receipts from Live Stock.
	Receipts from Passengers.							Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c., conveyed in Passenger Trains.	Receipts for Mail Service.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic.[1]	Passenger Receipts per Train Mile.	
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.							
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	£	s.	£
East Indian, Main Line	42,383	33,898	38,336	574,907	—	3,516	692,950	69,177	3,267	17,588	18,325	801,307	7·139	809
„ Jabalpur Line	5,702	4,400	2,459	45,068	—	—	57,629	7,444	985	5,366	5,873	77,297	6·636	22
Great Indian Peninsula	31,097	27,112	—	144,058	154,346	1,048	357,661	60,963	2,241	9,987	47,078	478,530	6·26	6,579
Madras	12,364	14,812	—	136,565	31,399	113	195,853	24,524	—	5,673	—	226,050	6·352	2,651
Bombay, Baroda, and Central India	6,055	11,725	Third class. Mail 49,870	Ordinary 123,124	—	3,383	194,157	18,345	165	8,447	7,235	228,349	8·10	11,459
Sind, Punjab, and Delhi	12,875	13,253	3,816	165,868	—	—	195,612	23,512	1,022	1,313	—	221,459	6·28	119
South Indian	927	1,619	—	48,025	—	10	50,581	3,019	6	569	55	54,230	3·14	92
Eastern Bengal	4,014	3,134	—	22,559	67,954	1,397	99,058	10,635	70	516	—	110,279	7·59	27
Oudh and Rohilkhand	Upper 6,092	—	—	Lower 122,845	—	—	128,937	8,434	—	215	—	137,586	6·54	11
STATE.														
Calcutta and South-eastern	Upper 187	—	—	Lower 5,956	—	—	6,143	211	—	—	—	6,354	5·87	21
Nalhafi	179	243	—	1,104	3,043	—	4,569	655	90	10	—	5,324	8·61	—
Amraoti	29	52	—	610	—	—	691	49	—	—	—	740	6·59	1
Khamgaon	11	12	—	67	38	—	128	23	—	—	—	151	3·67	—
Nizam's	1,202	1,316	—	3,814	13,515	8	19,855	2,873	—	322	2,086	25,136	8·39	18
Wardha Valley	32	21	—	57	256	—	366	29	—	—	—	395	8·96	—
Tirhut	60	37	—	555	—	—	652	15	—	19	—	686	4·41	—
Punjab, Northern	394	409	—	8,069	—	—	8,832	426	—	346	—	9,704	6·04	—
Rajputana	1,145	1,727	—	54,266	—	24	57,162	4,143	—	425	—	61,730	5·62	17
Holkar's	225	433	—	6,451	—	—	7,109	608	—	94	18	7,829	3·43	—
Totals for Railways	126,573	114,173	94,481	1,463,768	270,551	9,499	2,078,045	235,085	7,846	50,890	81,270	2,453,136	—	21,845
Indus Steam Flotilla	1,471	334	—	4,082	—	—	5,887	595	—	—	—	6,482	—	—
Totals for Railways and Flotilla	127,044	114,507	94,481	1,467,850	270,551	9,499	2,083,932	235,680	7,846	50,890	81,270	2,459,618	—	21,845

during Year ended 31st December 1875.

Goods Traffic.																	
Receipts from Minerals.			Receipts from General Merchandise (*exclusive of* Live Stock and Minerals).									Total Receipts from Passenger and Goods Traffic—(P.)+(G.)	Passenger and Goods Receipts per Train Mile.	Total Miscellaneous Receipts—(M.)	Miscellaneous Receipts per Train Mile.	Total Receipts from Passengers, Goods, and Miscellaneous—(P.)+(G.)+(M.)	Total Receipts per Train Mile.
From Coal and Coke.	From other Minerals.	Total Receipts from Minerals.	From First or Lowest Class.	From Second Class.	From Third Class.	From Fourth Class.	From Fifth or Highest Class.	From Special and Sundry.	Total.	Total Receipts from Goods Traffic—(G.)	Goods Receipts per Train Mile.						
£	£	£	£	£	£	£	£	£	£	£	s.	£	s.	£	s.	£	s.
234,119	—	234,119	619,549	351,133	146,743	80,639	17,188	172,499	1,387,751	1,622,679	9·956	2,423,986	8·807	85,671	·311	2,509,657	9·118
5	—	5	54,747	17,705	11,212	3,600	616	4,288	92,168	92,195	8·667	169,492	7·966	15,550	·698	185,042	8·304
478	—	478	559,321	468,723	113,564	106,325	38,456	164,220	1,450,609	1,457,666	10·22	1,936,196	8·84	36,890	·17	1,973,086	9·01
—	—	—	126,389	55,402	33,316	18,628	8,333	98,928	340,996	343,647	4·858	569,697	5·354	19,797	·186	589,494	5·540
807	305	1,112	81,439	63,626	94,439	3,234	10,079	77,437	330,254	342,855	12·44	571,204	10·24	14,251	·26	585,455	10·50
735	—	735	83,143	60,403	33,478	26,529	5,302	60,115	268,970	269,824	9·66	491,283	7·77	20,654	·33	511,937	8·10
—	—	—	27,842	11	3	1,515	73	12,199	41,643	41,735	2·42	95,965	5·56	6,704	·4	102,669	5·96
1,305	197	1,562	10,623	31,887	3,380	2,619	659	95,133	144,301	145,890	12·76	256,169	9·87	12,811	·48	268,980	10·08
211	—	211	27,517	10,131	13,035	6,559	880	71,830	130,002	130,224	4·84	267,810	5·59	6,936	·14	274,746	5·73
4	—	4	—	—	—	—	—	2,839	2,839	2,854	3·16	9,208	4·64	1,157	·58	10,365	5·22
783	—	783	384	332	473	303	27	264	1,783	2,566	2·83	7,899	5·18	52	·03	7,912	5·21
—	—	—	1,286	3,075	243	40	26	—	4,670	4,670	31·14	5,410	20·63	16	·06	5,426	20·6
—	—	—	539	3,075	40	16	1	—	3,671	3,671	23·89	3,822	19·62	11	·06	3,833	19·68
—	—	—	12,003	4,338	2,904	465	386	—	20,186	20,204	5·02	45,340	6·46	174	·02	45,514	6·48
—	—	—	1,018	1,152	56	12	2	—	2,240	2,240	9·53	2,635	9·43	39	·14	2,674	9·57
—	—	—	634	117	28	—	—	4	783	783	4·22	1,469	4·28	9	·03	1,478	4·31
—	—	—	2,234	592	1,251	—	—	287	4,364	4,364	5·89	14,068	5·99	208	·09	14,276	6·08
278	—	278	79,519	5,236	2,347	—	—	20,961	108,083	108,378	7·150	170,108	6·508	4,620	·177	174,728	6·685
—	—	—	17,266	1,630	2,016	—	—	2,571	23,513	23,513	5·24	31,842	4·63	603	·09	31,945	4·72
238,785	502	239,287	1,705,453	1,078,598	458,668	250,484	82,028	783,595	4,358,826	4,619,958	—	7,073,094	—	226,153	—	7,299,247	—
—	—	—	—	—	—	—	—	—	—	78,548	—	—	—	—	—	85,030	—
238,785	502	239,287	1,705,453	1,078,598	458,668	250,484	82,028	783,595	4,358,826	4,698,506	—	7,073,094	—	226,153	—	7,384,277	—

TABLE No. 4.—EXPENDITURE on REVENUE ACCOUNT

Railway.	Maintenance and Renewal of Way and Works.				Cost of producing Locomotive Power by Wages and Materials.			Repairs and Renewals of Carriages and Waggons.			Coaching and Merchandise.			Collection and Delivery of Goods.		
	Gross.		Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.
	Ordinary.	Special.														
GUARANTEED.	£	£	d.		£	d.		£	d.		£	d.		£	d.	
East Indian, Main Line	226,435	—	9·87	9·02	261,330	11·39	10·41	97,156	4·24	3·87	222,263	9·69	8·86	—	—	—
„ Jabalpur Line	38,654	—	20·81	20·89	27,901	15·02	15·08	9,778	5·26	5·28	16,401	8·83	8·86	—	—	—
Great Indian Peninsula	152,916	6,726	8·69	8·05	370,737	20·30	18·79	132,466	7·26	6·71	166,086	9·09	8·42	11,615	·64	·59
Madras	122,442	29,574	17·15	25·79	134,123	15·13	22·76	29,060	3·28	4·93	57,059	6·43	9·68	—	—	—
Bombay, Baroda, and Central India.	63,371	18,008	16·87	13·90	101,851	21·11	17·40	24,114	4·99	4·12	46,474	9·63	7·94	13,877	2·87	2·37
Sind, Punjab, and Delhi	63,578	15,492	14·10	15·45	108,019	19·26	21·10	28,625	5·10	5·59	54,751	9·76	10·69	2,208	·39	·431
South Indian	Gross 7,698	—	5·0	7·5	21,601	14·5	21·0	2,828	1·0	2·8	10,417	7·0	10·2	—	—	—
Eastern Bengal	32,914	21,743	24·58	20·32	33,518	15·07	12·46	14,478	6·51	5·39	37,439	16·84	13·91	—	—	—
Oudh and Rohilkhand	33,016	—	7·80	12·00	54,360	12·97	19·76	11,155	2·66	4·05	35,864	8·52	13·03	—	—	—
STATE.																
Calcutta and South-eastern	1,634	380	12·17	19·43	2,878	17·39	27·77	1,124	6·79	10·84	1,065	6·44	10·28	—	—	—
Nalhati	1,811	—	14·45	22·8	1,656	12·85	24·85	792	6·15	9·97	815	6·32	10·26	158	1·23	1·99
Amraoti	320	—	14·65	5·90	828	37·89	15·26	627	28·69	11·56	2,353	107·69	43·36	—	—	—
Khamgaon	280	—	17·25	7·30	572	35·22	14·93	375	23·10	9·78	1,306	80·43	34·07	—	—	—
Nizam's	16,132	—	27·57	35·45	14,275	24·39	31·36	4,811	8·22	10·57	16,195	27·67	35·58	—	—	—
Wardha Valley	697	—	29·95	26·07	646	27·75	24·16	326	14·01	12·19	1,039	44·64	38·85	—	—	—
Tirhut	506	—	17·7	34·3	357	12·00	24·3	17	·6	1·1	187	6·5	12·6	20	·7	1·3
Punjab, Northern	1,662	330	10·17	13·96	2,405	12·23	16·85	383	1·96	2·68	1,843	9·41	12·91	116	·59	·81
Rajputana	30,952	2,228	14·35	18·99	40,412	17·43	23·14	2,941	1·27	1·68	16,325	7·06	9·34	—	—	—
Holkar's	3,234	—	5·40	10·12	8,537	14·26	26·73	2,167	3·62	6·78	3,318	13·00	26·04	—	—	—
Totals for Railways	797,352	94,461	—	—	1,186,006	—	—	363,223	—	—	696,200	—	—	27,994	—	—
Indus Steam Flotilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals for Railways and Flotilla	-	-			-	-	-	-	-	-	-	-	-	-	-	-

during Year ended 31st December 1875.

Rates and Taxes.			Compensation for Personal Injury, &c., Damage and Loss of Goods.				Legal and Parliamentary Expenses.			Miscellaneous Working Expenditure, not included in the foregoing.			Total Working Expenditure.		
Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.		Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.
			Personal.	Goods.											
£	d.		£	£	d.		£	d.		£	d.		£	s.	
4,815	·21	·19	—	1,449	·06	·06	737	·03	·03	148,870	6·49	5·93	963,055	3·43	38·37
—	—	—	—	110	·06	·06	1	—	—	14,481	7·80	7·83	107,326	5·82	58·00
3,036	·17	·15	746	*Cr.* 653	—	—	723	·04	·04	89,289	4·89	4·53	932,787*	4·26	47·28
877	·09	·15	—	569	·06	·09	617	·07	·11	39,884	4·50	6·77	414,205	3·89	70·28
685	·14	·12	35	102	·03	·02	2,398	·49	·41	47,029	9·87	8·13	318,544	5·50	54·41
193	·03	·04	1,120	4,343	·97	1·06	580	·10	·11	49,178	8·77	9·6	328,067	4·87	64·08
336	·2	·3	—	13	—	—	2	—	—	6,881	4·0	6·7	49,770	2·8	48·5
675	·3	·25	—	531	·24	·19	190	·09	·07	25,703	11·55	9·56	167,191	6·27	62·15
—	—	—	5	782	·12	·28	—	—	—	29,093	6·84	10·68	164,275	3·26	59·70
76	·46	·73	—	—	—	—	—	—	—	1,186	7·17	11·14	8,543	4·19	80·49
4	·53	·05	24	3	·21	·34	—	—	—	875	6·79	11·02	6,138	3·9	77·28
—	—	—	—	—	—	—	—	—	—	—	—	—	4,128	15·74	76·09
—	—	—	—	—	—	—	—	—	—	—	—	—	2,533	13·02	66·08
—	—	—	—	—	—	—	—	—	—	428	·73	·94	51,841	7·38	113·99
—	—	—	—	—	—	—	—	—	—	169	6·83	5·95	2,807	10·26	107·22
—	—	—	—	—	—	—	—	—	—	—	—	—	1,087	3·16	73·6
—	—	—	—	3	·02	·02	—	—	—	1,316	6·72	9·22	8,058	3·43	56·45
—	—	—	5	153	·06	·09	—	—	—	18,230	7·38	10·43	111,246	4·01	63·67
—	—	—	3	4,243	7·10	13·31	8	·01	·02	4,071	6·80	12·75	30,586	4·26	95·75
10,697	—	—	1,938	11,853	—	—	5,236	—	—	477,273	—	—	3,672,053	—	—
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SUMMARY.

71. The principal facts noted in the foregoing pages may be briefly summed up as follows: During the year 1875, 261 miles were added to the open system of Indian railways, bringing the whole extent now completed up to 6,497 miles, of which 768 are constructed with a double, and 5,729 with a single line: 5,676 are on the 5′ 6″ gauge, and 821 on the narrow gauge. The section of the South Indian Railway between Madura and Tuticorin was opened in December last by His Royal Highness the Prince of Wales. Fair progress has been made on the works of the Indus Valley and Punjab Northern Railways. The line towards Darjeeling has also been getting on fairly. Sanction has been given to the completion of railway communication between Bombay and the North-West Provinces, viâ Ajmere, to which place lines have lately been constructed, both from Agra and Delhi. In other parts of India works are going on. Authority has been given to take in hand railways which, in addition to the lines already executed, will bring the whole length of railway up to 9,415 miles.

72. His Royal Highness the Prince of Wales during his visit to India travelled over 4,829 miles of railway, and expressed his satisfaction with the arrangements which had been made for his comfort and convenience.

73. During the year, 288,186 tons of railway materials were despatched to India from this country, of which 124,192 consisted of fuel. Since the commencement of railway operations there, 5,181,724 tons of goods, of the value of 34,659,444*l.* have been shipped in 8,495 ships.

74. The proprietors of stock and debentures of the guaranteed lines number 62,608, of whom only 390 are natives residing in India. The proportion of stock held in India is 1·56 per cent. of the whole.

75. The total amount expended on the railways to the 31st March last was 105,790,929*l.*, of which 93,720,794*l.* consisted of guaranteed capital, and 12,070,135*l.* of funds raised direct by the Government. Last year 2,760,940*l.* was expended on State lines, and 1,279,000*l.* on guaranteed lines.

76. The revenue derived last year from the open lines was 3,647,868*l.* The gross receipts were 7,412,179*l.*, and the expenditure 3,764,311*l.* The passengers earned 2,459,043*l.*, goods 4,703,509*l.*, and miscellaneous receipts amounted to 249,527*l.* The sums advanced to the different companies for guaranteed interest amounted to 4,650,346*l.*, which was 1,073,832*l.* more than they yielded.

77. The number of passengers carried was 26,779,437, being 2,498,978 more than the previous year. The proportion per cent. of the first class was 0·78, of the second 2·30, and of the lower classes 96·92. The number of tons carried was 4,388,649. The proportion per cent. of the gross revenue from goods was 65·67, and from passengers 34·33. The number of miles travelled by trains was 17,950,312, compared with 18,475,322 of 1874.

78. One very serious accident happened during the year, which caused the death of nine passengers, and injury to 13 more. The engine of a mail train ran off the rails on the Jubbulpore branch of the East Indian Railway. It is supposed that the cow-catcher attached to the locomotive dropped off and got under the engine when going at full speed.

79. Other accidents occurred to passengers, but they were occasioned by the imprudence or misconduct of the sufferers. Of railway servants, eight were killed and 25 injured from causes beyond their control, and 93 were killed and 173 injured by preventible causes. The total number of accidents to trains was 868, compared with 767 of the previous year. They are principally caused by cattle trespassing.

80. The expenses of maintaining and working the railways amounted to 3,764,311*l.* compared with 3,841,522*l.* of the previous year. This outlay is, in several cases, augmented by the heavy cost of repairs in consequence of the damage done by floods. But one great source of ordinary expenditure is the large amount of tare, arising partly from the construction of the vehicles, and partly from the unequal stream of traffic up and down the lines.

81. The impressions left after a personal inspection of the railways are briefly these:—That they are conferring immense benefits on the country: that they are

upon the whole in good condition, and carefully managed: that they may do more than has hitherto been done for the development of traffic, and for the increase of profits. that a decrease in the rates of some of the present charges for conveyance, and an increase of facilities would assist to accomplish these objects: that measures of this description have been and are still being taken: that close attention is required to the expenses of working and maintenance in order to secure economy: that the extension of the present system, and the construction of light feeders is much to be desired, whenever the state of the finances of the country admits of the necessary expenditure.

I have the honour to be,
My Lord Marquis,
Your lordship's very obedient humble servant,
JULAND DANVERS.

APPENDIX.

THE INDIAN RAILWAYS, 1876.

Guaranteed Lines.

1. East Indian. 1,503¾ miles.
   Calcutta to Allahabad, 629 miles; thence north-west to Delhi, 389 miles, and south-west to Jabalpur, 228 miles; also the chord line between Bardwan and Lakhmisarai, with a mineral branch to Karharbali.
2. Great Indian Peninsula. 1,286¾ miles.
   1. The north-eastern line from Bombay to Bhusawal and Jabalpur, and from Bhusawal to Nagpur. 2. The south-eastern line from Bombay to Raichur, which is the junction with the Madras line.
3. Madras. 857¾ miles.
   1. South-western line to Beypur, with a branch to Bangalor, 492 miles; and another sanctioned to the foot of the Nilgiri mountains, 25 miles; also an extension from Bangalor to Mysore, 88 miles, surveying. 2. North-western line to Raichur, the junction with the Great Indian Peninsula, with a branch to Belari, 340 miles.
4. Bombay, Baroda, and Central India.
   Bombay to Ahmedabad, and thence to Wadwan, 389½ miles, with a branch from Anand to Dakor and Pali, 31 miles.
5. Sind, Punjab, and Delhi. 674 miles.
   Delhi to Lahore and Mooltan in the Punjab, and Kotri to Karachi in Sind.
6. South Indian (late Great Southern of India and Carnatic, now amalgamated).
   Nagapatam to Erod junction, 168 miles; and from Trichinopoli to Tuticorin, 215¾ miles, completed. Extensions in progress from Madras to Tanjor, 216 miles.
7. Eastern Bengal. 156½ miles. Calcutta to Goalandu.
8. Oudh and Rohilkhand.
   Benares to Moradabad, 414 miles; Cawnpore to Lucknow, 45 miles; Nawabganj to Bahram Ghat, 22 miles; Chanausi to Aligarh, 61 miles; being 542 miles open.

State Lines.

9. Calcutta and South-eastern. 28 miles.
   Calcutta to Canning, on the Mutla River.
10. Nalhati. 27½ miles. A branch from the East Indian Railway at Nalhat to Morshedabad.
11. Khamgaon. 7½ miles. A branch from the Great Indian Peninsula Railway to Khamgaon.
12. Amraoti. 5½ miles. A branch from the Great Indian Peninsula Railway to Amraoti.
13. Patri. 22 miles.
    A branch from the Bombay, Baroda, and Central India Railway to the salt works on the Runn of Cutch.
14. Tirhut. 53 miles. Chumpta Ghat to Darbhanga.
15. Hyderabad. (*Nizam's Line.*)
    Wadi on the Great Indian Peninsula Railway to Hyderabad and Secunderabad, 121 miles.

State Lines not Completed.

16. Punjab, Northern.
    Lahore to Peshawar, 329 miles. Completed as far as Jhelum, 103 miles.

17. Rajputana.
1. Agra to Jeypur and Ajmere, with a branch to Sambhar Lake, 254 miles. 2. Delhi to Bandikiu, and branch to Farruckhnagar, 142 miles; open from Ajmere to Nasirabad. 3. Indore to Neemuch and Ajmere, 450 miles.
18. Indus Valley.
Mooltan to Kotri, 493 miles. In progress.
19. Indore and Khundwa. (*Holkar's Line.*) 86 miles.
From Khundwa completed to the Nerbudda River.
20. Wardha Valley. 45 miles. Sanctioned from Wardha to Warora. Opened from Wardha, 18 miles.
21. Nagpur and Chattisgarh. 131 miles. In progress.
22. Carwar to Gadak. 252 miles. Surveyed, but in abeyance.
23. Rangoon and Irrawaddy Valley.
Rangoon to Prome, 160 miles. Works commenced.
24. Northern Bengal. From the Ganges near Kooshtea on the Eastern Bengal Railway, to Jolpigori and Darjeeling Road. Surveyed. Works commenced.

1. INDIA.—GUARANTEED RAILWAYS.

List of Stations.

Names.	Miles.	Names.	Miles.
EAST INDIAN RAILWAY. Main Line.	Distance from Howrah.	**EAST INDIAN RAILWAY**—*cont.* Main Line—*cont.*	Distance from Howrah.
HOWRAH	0	Patna (City)	332
Bali	6	Bankipur (Patna Civil Station)	338
Connagar	9	DINAPUR	344
Serampur	12	Bihta	355
Baidyabati	15	Koilwar	360
Chandernagore	21	Arrah	368
Hugli	24	Bihia	382
Magra	29	Raghunathpur	391
Khanyan	35	Dumraon	401
Pandua	38	BAXAR	411
Bainchi	44	Guhmar	424
Memari	51	Dildarnagar	433
Saktigar	59	Zamania	442
BARDWAN	67	Sakuldiha	458
Kanu Junction for loop line	75	MOGHAL SARAI (Junction)	469
Mancur	90	*Benares* (Branch)	475
Panigar	97	Ahraura Road	478
Rajband	101	Chunar	489
Durgapur	106	Puhari	499
Andal	116	MIRZAPUR	509
RANIGANJ	121	Gaipura	521
Siarsol	122	Nahwai	530
Nimcha	124	Sirsa Road	541
Asensol	132	Karchana	553
Sitarampur (Junction)	138	Naini (Junction with the Jabalpur Line, though the fares are charged from Allahabad)	560
Barakar (Branch)	143	ALLAHABAD	564
Maijam	148	Manauri	575
Jamtara	157	Bharwari	588
Kharmatar	168	Sirathu	600
MADHUPUR (Junction)	183	Khaga	616
Jagadispur (Branch)	191	BAHRAMPUR	624
Mahesmanda (Branch)	200	Fatehpur	637
Giridi (*Karharbali*) (Branch)	206	Malwa	647
Baidyanath	201	Mohar	656
Simultala	217	Sirsol	671
Nawadi	228	CAWNPORE	684
Ghidhar	235	Bhanpur	698
Jamoi	244	Rura	711
Mananpur	254	Jhinjhak	723
LAKHMISARAI (Junction with Loop Line)	262	Paphund	735
Barhia	271	Achalda	746
Mokama	282	Bartna	758
Barh	299	ETAWAH	770
Bukhtiarpur	310	Jaswantnagar	780
Fathwa	324		

1. INDIA.—GUARANTEED RAILWAYS—*continued.*

LIST OF STATIONS—*continued.*

Names.	Miles.
EAST INDIAN RAILWAY—*cont.*	Distance from Howrah.
MAIN LINE—*cont.*	
Badan	792
Shikohabad	805
Ferozabad	817
TUNDLA (JUNCTION)	827
Agra (Branch)	841
Barhan	836
Jalesar Road	845
Hatras Road	857
Pali	867
ALIGARH (JUNCTION WITH THE O. AND R. RAILWAY)	876
Somna	889
Khurja	903
Chola (Bulandshahar Road)	912
Sikandarabad	920
Dadri	931
GHAZIABAD (JUNCTION WITH S., P. AND D. RAILWAY)	942
DELHI	954
LOOP LINE STATIONS.	
Kanu (Junction)	75
Gushkara	87
Bedia	94
Bhalpur	99
Ahmudpur	111
Synthia	119
Malarpur	129
Rampur Hat	136
Nalhati (Junction with the Nalhati State Railway)	145
Muraroi	155
Rajgaon	162
Pakur	169
Bijapur	177
Bahawa	185
Tinpahar (Junction)	195
Rajmahal (Branch)	202
Maharajpur	210
SAHIBGANJ	219
Pirpointi	233
Colgong	245
Ghogha	252
Bhagalpur	265
Sultanganj	280
Bariarpur	291

	Distance *viâ* Chord Line. Miles.	
JAMALPUR (JUNCTION)	291	297
Monghir (Branch)	297	303
Darara	284	304
Kajra	273	315

JABALPUR LINE.	Distance from Allahabad.
ALLAHABAD	0
Naini (Junction with the Main Line)	5
Jasra	15
Shiurajpur	29

Names.	Miles.
EAST INDIAN RAILWAY—*cont.*	Distance from Allahabad.
JABALPUR LINE—*cont.*	
Bargar	39
Dabura	49
Manickpur	63
Markundi	73
Majgaon	86
Jetwar	99
SATNA	111
Achara	124
Maihar	133
Andara	149
Jokhie	161
Katni	172
Slimanabad Road	189
Sihora Road	205
Deori	218
JABALPUR (JUNCTION WITH THE G. I. P. RAILWAY)	229
EASTERN BENGAL RAILWAY.	Distance from Calcutta.
CALCUTTA	0
Chitpur (Branch)	2¾
Dam-Dam	4¼
Belgharia	7
Sodpur	9¾
Kharda	11¼
Titagar	12½
BARRACKPUR	14
Ichapur	16¾
Samnagar	18½
Naihati	23½
KANCHRAPARA	28
Madanpur	33
Chagda (for Jessor)	38¼
Ranaghat	45¼
Aranghata	51
Bagula (for Krishnagar)	57½
KISANGANJ	65
Ramnagar	74½
Jayrampur	77¾
Chuadanga	83½
Munshiganj	89
Alamdanga	93¼
Halsa	98½
Paroda	102¾
Jagoti Junction	107¼
Kushtia (Branch)	112
Kumarkhali	117
Koksa	121½
Pangsa	129¼
Bolgachi	137
Rajbari	144
GOALANDU	151¾
OUDH AND ROHILKHAND RAILWAY.	Distance from Lucknow.
LUCKNOW (towards Moradabad)	0
Alamnagar	4
Kakori	9
Malihabad	15
Rahimabad	23
Sandila	30
Balamau	42
Baghauli	48

1. INDIA.—GUARANTEED RAILWAYS—*continued.*

LIST OF STATIONS—*continued.*

Names.	Miles.
OUDH AND ROHILKHAND RAILWAY—*continued.*	Distance from Lucknow.
HARDOI	63
Chandpur	74
Auji	83
Kahelia	92
Rosa (Junction)	98
SHAHJAHANPUR	102
Tilhar	114
Miranpur Katra	120
Fatehganj	124
Faridpur	134
BARELI	146
Lucknow — Lucknow and Cawnpore Branch.	0
Harauni — Lucknow and Cawnpore Branch.	14
Kusumbhi — Lucknow and Cawnpore Branch.	21
Ajgain — Lucknow and Cawnpore Branch.	24
Unao — Lucknow and Cawnpore Branch.	34
Cawnpore — Lucknow and Cawnpore Branch.	46
Bisaratganj	156
Aonla	163
Mahmudpur	171
Dabtara	174
Asafpur	181
CHANDAUSI (JUNCTION WITH THE ALIGARH BRANCH)	190
Bilari	202
Kandarki	206
MORADABAD	217
Chandausi Junction — Aligarh Branch.	190
Bijhoi — Aligarh Branch.	200
Danhari — Aligarh Branch.	209
Babrala — Aligarh Branch.	217
Rajghât — Aligarh Branch.	220
Dubhai — Aligarh Branch.	224
Atrauli Road — Aligarh Branch.	233
Hardwaganj — Aligarh Branch.	242
Aligarh — Aligarh Branch.	250
Lucknow (towards Benares)	0
Malhaur	7
Jagor	10
NAWABGANJ (JUNCTION WITH THE BAHRAMGHAT BRANCH)	17
Damudapur — Bahram ghât Branch.	22
Bindaura — Bahram ghât Branch.	28
Ramnagar — Bahram ghât Branch.	34
Mahadeo — Bahram ghât Branch.	37
Bahramghât — Bahram ghât Branch.	39
Rasauli	23
Safdarganj	29
Dariabad	41
Makdumpur	46
Radauli	55
Baragaon (Mastafabad)	61
Sohawal	70
FYZABAD	79
Ajodhya	83
Darsinnagar	84
Belar Ghât	91
Tandauli	98
Gosainganj	101
Camirpur	105
Akharpur	115
Malipur	127
Bilwai	136
Shahganj	143
Kheta Sarai	149
Marai	156
Jaunpur (City)	163
Jaunpur (Civil)	167

Names.	Miles.
OUDH AND ROHILKHAND RAILWAY—*continued.*	Distance from Lucknow.
Jelalganj	174
Phulpur	181
Babatpur	187
Shiupur	195
Benares (Cantonment)	199
SIND, PUNJAB, AND DELHI RAILWAY.	
PUNJAB AND DELHI SECTION.	Distance from Delhi.
DELHI	0
GHAZIABAD (JUNCTION WITH THE E.I. RAILWAY)	13
Begamabad	28
Meerut City	40
MEERUT CANTONMENT	43
Khatauli	61
MUZAFFARNAGAR	75
Deoband	90
SAHARANPUR	111
Sarsawa	119
Jagadhri	130
Barara	146
UMBALLA CANTONMENT	161
Umballa City	166
Rajpura	179
Sarhind	194
Khanna	205
Sanahwal	222
LUDHIANA	232
Phillur	240
Phagwara	254
JULLUNDUR CANTONMENT	264
Jullundur City	267
Kartarpur	276
East Bank (Beas)	287
Beas	289
Jandela	303
AMRITSAR	316
Khasa	324
Atari	332
Jallo	338
Meean Meer, East	345
LAHORE	348
Meean Meer, West	352
Khana	361
Raewind	374
Changa Manga	392
Wan Radharam	408
Okara	428
MONTGOMERY	451
Harappa	464
Chichawatni	477
Channu	498
Kacha Khuh	512
Khanewal	525
Tatipur	543
MOOLTAN	556
Sher Shah	567
SIND SECTION.	Distance from Kiamari.
Kiamari	0
KARACHI (MCLEOD STATION)	4
Karachi (Frere Station)	6¼

1. INDIA.—GUARANTEED RAILWAYS—*continued.*

LIST OF STATIONS—*continued.*

Names.	Miles.
SIND, PUNJAB, AND DELHI RAILWAY—*cont.*	
SIND SECTION—*cont.*	Distance from Kiamari.
Landi	18½
Dorbaji	38
JUNGSHIE	57
Jimpir	76
Maiting	89½
Bolari	101
KOTRI	109¼
GREAT INDIAN PENINSULA RAILWAY.	
NORTH-EASTERN DIVISION.	Distance from Bombay.
BOMBAY	0
Bicala	2¼
Chinchpokli	3¼
Parel Station	4½
Dádar	5½
Sion	8
Karla	9¼
Bhándup	16¾
Thána	20¾
Diwa	26¼
KALIAN JUNCTION (JUNCTION OF THE NORTH-EAST LINE WITH THE SOUTH-EAST LINE)	33¼
Titwála	40
Wásind	49½
Sháhapur	53¾
Atgáon	59
Khardi	66¾
KASARA	75
IGATPURI	85
Ghoti	90¾
Bailgáon	100½
Deoláli Barrack siding	112¾
NASIK ROAD	116¼
Kherwádi	128
Niphád	136
Lásalgáon	146½
Manmár	161¾
NANDGAON	177½
Naydongri	190½
CHALISGAON	203⅝
Kajgáon	215½
Páchora	231½
Máheji	240¾
Bhasáwad	248
Shirsoli	254
Jalgáon	261
Nasirábád	268¼
BHUSAWAL JUNCTION (JUNCTION WITH THE NAGPUR BRANCH)	276
Sáuda	285¾
Nimbora	291½
Ráwer	297½
Burhanpore	310
Chándni	322
Mándwa	330
Dongargáon	338½
KHANDWA	352¾
Jawar	362½
Bir	374
Harsad	385¾
Kirkián	396½
Bhiringi	404½
HARDA	416¼

Names.	Miles.
GREAT INDIAN PENINSULA RAILWAY—*cont.*	
NORTH-EASTERN DIVISION—*cont.*	Distance from Bombay.
Timarni	424¾
Pagdhál	433¼
Seoni	442¾
Dharam Kandi	447¼
Dularia	455½
Itársi (Hoshangábád)	463¼
Rámpur	469¾
Bagra	479½
Semri	487⅓
SOHAGPUR	493⅔
Piparia	505½
Bankheri	517½
Bábai	527⅓
Gádarwára (Junction of the Mopani Branch)	536½
Boháni	544½
Kareli	554¼
Narsinghpur	564
Karak Bel	573½
Chhindwára	583½
Shahpura	598
Mirganj	606¼
JABALPUR (JUNCTION WITH THE E.I. RAILWAY)	616
NAGPUR BRANCH.	Distance from Bombay.
BHUSAWAL JUNCTION	276
Warangáon	284
Nárgáon	295
Khámkhed	301½
Malkápur	307¼
Biswa Bridge	315¾
Nándura	324½
Jalamb (Junction)	332
Khámgáon — Khámgáon State Railway	340
SHEOGAON	339¾
Páras	350¼
Akola	362¾
Borgáon	374¼
Martizápur	386
Máuná	393½
Karam	401¾
BADNERA (JUNCTION)	412
Amráoti — Amráoti State Railway	418
Chándur	430
Dhámangáon	440½
Palgaon	452½
Degáon	462½
Wardha (Junction of the Wardha Valley State Railway)	471
Páunar	479¾
Sindi	490¾
Bori	503
NAGPUR	519¾
SOUTH-EASTERN DIVISION.	
KALIAN (JUNCTION)	33
Badlápur	42
Neral	53½

1. INDIA.—GUARANTEED RAILWAYS—*continued.*

LIST OF STATIONS—*continued.*

Names.	Miles.
GREAT INDIAN PENINSULA RAILWAY—*cont.*	
SOUTH-EASTERN DIVISION—*cont.*	Distance from Bombay.
KARJAT	62
Khandala	77
LONAULI	79½
Kharkala	89½
Talegaon	98
Chinchwad	109
Kirkee	115¼
POONA	119
Loni	129½
Uruli	137
Kedgáon	152½
Pátas	159
Dhond	165½
DIKSAL AND BHIGWAN	183¼
Pamalwári	195
Jehar	212½
Kim	222¼
BARSI ROAD	233¾
Marhi	243¾
Angar	252
Mohol	262¼
Pákni	272¾
SHOLAPUR	282¾
Hudgi	291¾
Karabgáon	304½
Dudhni	322
Gadar	336½
Kulbarga	352¾
SHAHABAD	369¼
Wadi (Junction with the Nizam's State Railway)	376¼
Nalwar	384
Yádagiri	399¾
Saidápur Road	414¼
KRISHNA	426¾
Chikságar	432¼
RAICHUR (JUNCTION WITH THE MADRAS RAILWAY)	442½
BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY.	Distance from Bombay (Colaba).
Colaba (Bombay.)	0
Church Gate Street (Bombay.)	1¼
Marine Lines (Bombay.)	2
Churney Road (Bombay.)	2¾
Grant Road (Bombay.)	3½
Mahalakhmi	5
Parel	6
Dadar	7¾
Mahim	9½
Bandora	10½
Andheri	15
Gorgaum	18
Barwali	22½
Bhayndar	28½
Bassein Road	33½
Virar	38½
Saphala	47¾
Palghar	57¾
Boisar	64¾
Wangaon	70½
Dahanu Road	78
Gholwad	85
Wenji	90¾
Sanjan	94
Bhilad	101¼

Names.	Miles.
BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY—*cont.*	Distance from Bombay (Colaba).
Daman Road	108¼
Udwara	114¾
Pardi	118
Haria	119¼
Bulsar	124½
Dungri	130
Bilimora	135¾
Amalsad	139
Nausari	148¾
Maroli	154
Sachin	158
SURAT	167
Amroli	169¼
Sayan	175½
Kim	181¼
Panoli	191½
Ankleswar	198
BROACH	203½
Chamargam	211
Palej	219¼
Miagam (Junction)	229
Karwan } His Highness the Gaek-	237¾
Mandala } war of Baroda's Rail-	242¼
Dabhoe } way.	249
Etola	236
BARODA	247¼
Bajwa	252
Wasad	259¾
Nauli	265½
Anand (Junction—Dakor Branch)	269½
Bhalaj (Dakor Branch)	276¾
Umreth (Dakor Branch)	283½
Dakor (Dakor Branch)	288
Boriavi	274
Neriad	280¾
Mehmadabad	291¾
Barajri	298¾
AHMEDABAD	309½
Sabarmati	312½
Ambli Road	319¼
Sanand	327
Charori	334
Jakhwara	342½
VIRAMGAM (JUNCTION)	349¾
Jhond (Patri Branch)	358
Patri (Patri Branch)	367½
Kharaghora (Patri Branch)	372¼
Sabli Road	359¾
Lilapur Road	368¼
Lakhtar	375¾
WADHWAN	389¼
SOUTH INDIAN RAILWAY.	
NAGAPATAM TO TUTICORIN.	Distance from Nagapatam.
NAGAPATAM	0
Sickli	3½
Kivalor	7½
Trivallor	14½
Kulikeri	18¼
Kordachari	24½
Nidamangalam	29¾
Amapeta	35¾
TANJOR	39
Saliamangalam	48½

1. INDIA.—GUARANTEED RAILWAYS—*continued.*

LIST OF STATIONS—*continued.*

Names.	Miles.
SOUTH INDIAN RAILWAY—*cont.*	Distance from Nagapatam.
NAGAPATAM TO TUTICORIN—*cont.*	
Budalor	59
Tiruvembor	73
TRICHINOPOLI	79½
Trichinopoli Fort	81¾
Colatur	90¾
Manaparai	101¾
Vaiyampatti	110¼
Aiyalur	121½
Vadamadura	126¾
DINDIGAL	136¾
Amayanaikanur	150¼
Sholavandan	162
MADURA	175½
Teruparangandram	179½
Terumangalam	185¾
Virdapatti	202
Satur	218¾
Kovilpatti	231¾
Kadambur	245¾
MANIACHI (JUNCTION)	255¾
TUTICORIN	273¾
TRICHINOPOLI TO EROD.	
Trichinopoli Fort	81¾
Elamanor	91¼
Kalitalay	102½
Lalapeta	108¾
Catalai	115½
CARUR	126½
Pugalor	135¾
Cadamudi	143½
Pasur	155½
EROD	168½
ARCONAM TO CONJEVERAM.	Distance from Arconam.
ARCONAM	0
Pâlur	9
Chengleroyen's Choultry	11
CONJEVERAM	19
MADRAS RAILWAY.	Distance from Madras.
SOUTH-WEST LINE.	
MADRAS	0
Perambor	3½
Avadi	13
Tinanor	18
Trivallor	26
Cadambatur	29½
Chinamapet	36
ARCONAM (JUNCTION)	42½
Chalangivar	55¾
Arcot	65
Tiruvelam	73
VELLOR	80½
Virinjipuram	88½
Guriatam	95¾
Mailpatti	105½
Ambur	112¾
Vanimbadi	122¾
JOLARPET (JUNCTION)	132

Names.	Miles.
MADRAS RAILWAY—*cont.*	Distance from Madras.
SOUTH-WEST LINE—*cont.*	
Cupam	154¼
Colar Road (Bangalor Branch)	175¾
Malur (Bangalor Branch)	192½
Cadjudi (Bangalor Branch)	204¾
Bangalor (Bangalor Branch)	216¼
Tripator	136¾
Samalpatti	151¼
Morapur	166
Mallapuram	180
Shervaroy Hills	192¼
SALEM (*Suramangalam*)	206¾
McD.'s Choultry	219¾
Sankhagiri Drug	230½
EROD (JUNCTION)	243
Peranduray	252¼
Watkali	266½
Avinashi Road	275
Somanur	286
Pothanur Junction	301¾
Coimbator (Nilgiri Branch)	305½
Tudialor (Nilgiri Branch)	311½
Karamaday (Nilgiri Branch)	323
Metapoliem (Nilgiri Branch)	327½
Madikari	308
Waliar	316½
Conjecod	323½
PALGHAT	332
Parley	337¾
Lackadi	347
Wutapoliam	351½
Shoranur	359½
Pattambi	366¾
Cutipuram	378¼
TIRUR	387½
Tanur	392½
Perpengadi	397½
BEYPUR	406¼
NORTH-WEST LINE.	
ARCONAN	42½
Tirutani	50¾
Nageri	59¾
Patur	69¼
Pudi	78
TIRUPETI	83¾
CODUR	109
Redipalli	121¾
Rajampet	129¾
Nandalor	136¾
Woutimeta	147
KALAPA	161½
Camalapur	176¼
Yeraguntla	185¾
Mudanur	195¾
Kondipuram	210½
Tadputri	227½
Royalcheru	242¾
GUTY	257½
Gundakal	273½
Virapur (Belari Branch)	291½
Belari (Belari Branch)	305½
Nancherla	281¼
Auspri	295
Adoni	307½
Kosgi	325
Tungabhadra River (South Bank)	333½
Matmari	339¾
RAICHUR	350½

2. INDIA.—STATE RAILWAYS.

Provisional List of Stations.

Corrected to 1st February 1876.

Names.	Distance from Termini.
CALCUTTA AND SOUTH-EASTERN STATE RAILWAY.	Miles.
Calcutta	—
Baliganj	3
Jadupur	5
Garia	8
Sonapur	10
Chapahati	15
Basra	20
Canning	28
PUNJAB NORTHERN STATE RAILWAY.	
Lahore	—
Shahdara	5
Muridki	17
Kámoke	29
Gujránwála	41¾
Ghakkhar	51¼
Wazirabad	62
Gujrat	71
Lála Musa	81
Khárián	91
Jhelum	103
Dina	115
Sohawa	128½
Gujar Khan	140½
Mandra	149
Rowat	159
Rawul Pindee	171
INDUS VALLEY STATE RAILWAY.	
Mooltan	—
Sher-Shah	6½
Buch	12
Shujabad	24½
Gilawála	39
Lodhrán	53½
Baháwalpur	63¼
Samasata	70¼
Mubárakpur	83¾
Ahmadpur	93
Chani di Goth	107
Chaudri	119¾
Firoza	132¾
Khanpur	146
Katsamba	160
Naushahra	173
Sádikabad	186
Walhar	—
Reti	210
Khairpur	219
Mirpur	228
Sarhad	235
Ghotki	242
Mahesar	253
Panoákil	259
Sangi	268
Sukkur	276

Names.	Distance from Termini.
INDUS VALLEY STATE RAILWAY—*cont.*	Miles.
Bágarji	—
Ruk	—
Madeji Road	—
Naundero	—
Lárkána	—
Bákráni Road	320½
Bádeh	332
Radhan	343½
Sita Road	335
Phulji „	367½
Dádú	377
Bhán	389½
Sehwan	402
Laki	414
Amri	422¾
Sann	435¼
Májhand	—
Gopang	—
Unarpur	472
Petaro	484
Kotri	498
DELHI DISTRICT, RAJPUTANA STATE RAILWAY.	
Delhi	—
Pálam	11
Keri (for Gurgaon)	19
Garhi Harsaru	25
Sultanpur	29½
Farrukhnagar	32½
Játaoli	37½
Khalilpur	44
Rewari	51
Báwal	60
Ajeráka	68
Harsauli	76
Khirtal	80
Barwára	88½
Ulwar	97
Málakheri	109
Rájgarh	119
Baswa	127
Bandikui Junction	134½
AGRA DISTRICT, RAJPUTANA STATE RAILWAY.	
Agra (Fort)	—
Agra (Cantonment)	1½
Bichpuri	6½
Achnera	16¼
Ikran	25¾
Bhartpur	33¼
Helak	40½
Nadbai	51
Kherli	61½
Mandawar	73½
Biwai	84
Bandikui Junction	93½

N.B.—Changing stations are shown in antique type, and *branch* stations in italics.

2. INDIA.—STATE RAILWAYS—*continued.*

PROVISIONAL LIST OF STATIONS—*continued.*

Names.	Distance from Termini.
AGRA DISTRICT, RAJPUTANA RAILWAY—*cont.*	Miles.
Arau	100¾
Dosa	111½
Jatwara	118¾
Basi	129¼
Kanota	135½
Sanganer	143
Jeypur	149¾
Dhankia	161¼
Asalpur	172¾
Phalera Junction	183¾
Sambhar	188¼
Naraina	190
Sali	201½
Tilonia	208¼
Kishengarh	215
Ladpura	223¾
Ajmere	232¼
Nasirabad	246½
SINDIA STATE RAILWAY.	
Agra	—
Kothaoli	9½
Syean	19
Mania	28
Dholpur	36
Garuna	48
Nurabad	59
Gwalior	69
WEST RAJPUTANA STATE RAILWAY.	
Ajmere Junction	—
Saradna	8½
Mangalyawas	14¾
Kharwa Road	21½
Byawar or Nyanagar	28½
Sendra	39
Raypur	51¼
Chandawal	59
Sujat Road	69
Somrar	78
Awoh	85¼
Bhonta	95
Daria	107
Vijova	115½
Bel	123¼
Erinpura Road	140¼
Nanah	149½
Pindwara	160
Rohira Road	171¾
Bhimano	178½
Abu	187
Mawal	193¼
Sulotra Road	203½
Chitrasani	212½
Palanpur	220
Chanpi	231
Sidhpur	238¼
Unja	247
Maisana	260¼
Jaggodan	266¼
Dangarwa	276
Kalol	286
Koria	292¾
Sabarmati	299¼
Ahmedabad	302

Names.	Distance from Termini.
HOLKAR STATE RAILWAY.	Miles.
Khundwa	—
Ajanti	7
Atur	18
Kheri	26
Sanawad	33
Mortakka*	36¾
Barwai	39½
Bulwara	49½
Choral Chauki	57
Kala Khand	63¼
Mhow	72½
Rao	79
Indore	85½
NEEMUCH STATE RAILWAY.	
Indore	—
Biloda	12¾
Fatehabad Junction	23½
Ujein	35½
Chambal River	39¼
Barnagar	43¼
Runija	53
Bhilpank	62
Ratlam	71
Namli	80
Jaura	92½
Dodar	102¼
Dalauda	114½
Mandesar	122¾
Piplia	135¼
Chaldu	142¾
Neemuch	154½
Nowagam	164¼
Nimbhera	171½
Satkanda	179½
Chitor	190¾
Gangrar	200½
Hamirgarh	211¾
Bhilwara	222½
Azimpura	232¾
Bara Raira	242¼
Rupaili	553
Sakrani	264½
Bhandarwara	276½
Nasirabad	288½
KHAMGAON STATE RAILWAY.	
Jalamb	—
Khamgaon	7½
AMRAOTI STATE RAILWAY.	
Badnera	—
Amraoti	5½
NIZAM'S STATE RAILWAY.	
Wadi Junction	—
Chitapur	9
Sheydumb or Seram	23
Ullapur	33
Tandur	43
Dharur	57
Illampalli	70
Pattapur	87
Lingampalli	100
Hyderabad	115
Secunderabad	121

* Closed as a station for the present.

N.B.—Changing stations are shown in antique type, and *branch* stations in italics.

2. INDIA.—STATE RAILWAYS—*continued.*

PROVISIONAL LIST OF STATIONS—*continued.*

Names.	Distance from Termini.
PATRI STATE RAILWAY.	Miles.
Viramgaum	—
Jhand Road	7¾
Patri	17
Kara Gora	22½
NALHATI STATE RAILWAY.	
Nalhati	—
Takipur	4
Nowada	8
Bokhara	12¼
Sagordighi	17
Sahapur	21
Azimganj	27¼
WARDHA VALLEY STATE RAILWAY.	
Wardha	—
Sonagaon	11
Hinganghât	19
Nagri	31½
Warora (Passenger)	45
Ditto (Coal)	46
KARWAR STATE RAILWAY.	
Karwar	—
Kulgad	17½
Hebul	32
Rawanguti	43½
Slimuni	55
Iddagongi	62
Yellapur	68
Kirwhatti	80½
Khulghatgi	94
Misracota	101
Hubli	109½
Sirgampi	120
Anigheri	130
Gadak	144½
NAGPUR AND CHATTISGARH STATE RAILWAY.	
Nagpur Cantonment	—
„ City	3½
Kampti	8½
Bubdeo	19¾
Bhandara Road	42¼
Paruswara	49
Firora	63¼
Dandaigaon	71¼
Kurwa	81½
Komptha	90
Karanja	101½
Borcotola	121½
Dongargarh	131¼

Names.	Distance from Termini.
RANGOON AND IRRAWADDY VALLEY RAILWAY.	Miles.
Pungundong	—
Rangoon	2
Kemmendine	5
Thamine	9½
Hlaugau	19½
Engdun	29½
Gyobyo	44
Ok-kan	56½
Thongzai	66
Lappadan	77
Menghla	92
Otpho	102
Zigong	116
Poungday	129½
Pouktan	140½
Sinmesway	149½
Prome	161
*** NORTHERN BENGAL STATE RAILWAY.**	
Sara	—
Gopalpur	—
Malanchi	—
Nator	24
Mahdnagar	33½
Atrai	39¼
Raninagar	48
Sitapur	—
Chutiangram	55¼
Nawabganj	64½
Jaipur Road	73½
Panchbibi	79¾
Hili	85¾
Debpur	95
Phulbari	—
Parbatipur	112½
Rangpur	135½
Dinajpur	132½
Sidpur	121
Darwani	129
Chaura	139
Bagdogra	146½
Chilahati	156
Haldibari	—
Jalpigori	173
Shikarpur	184
Shampur	—
Bidarganj	—
MYSORE STATE RAILWAY.	
Bangalor	—
Bangalor Pété	2½
Kengéri	7½
Kambligod	14
Bidadi	23½
Closepété	29¾
Chinnapatam	36½
Madura	48½
Mandya	58
Yellur	65½
French Rocks	74½
Seringapatam	79½
Mysore	88

* Sites for the stations on the branches have not yet been suggested.

N.B.—*Changing* stations are shown in antique type, and *branch* stations in italics.

2. INDIA.—STATE RAILWAYS—*continued.*

PROVISIONAL LIST OF STATIONS—*continued.*

Names.	Distance from Termini.
TIRHUT STATE RAILWAY.	Miles.
Semuria	—
Tegra	8
Begam Saria	14
Dalsing „	22
Ujiapur	29
Somastipur	36
TIRHUT STATE RAILWAY—*cont.*	
Not yet fixed / *Haya* / *Darbhangha* — Darbhangha Branch.	44 / 51 / 58
Wini (for Pusa and Tajpur)	43
Duli	52
Rehna	60
Muzaffarpur	68

N.B.—Changing stations are shown in antique type, and *branch* stations in italics.

LONDON:
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For Her Majesty's Stationery Office.

THE
RAILWAYS
OF
INDIA
CHINESE EMPIRE
TIBET
BHOTAN
BURMAH
ARABIAN SEA
BAY OF BENGAL
INDIAN OCEAN
CENTRAL PROVINCES
HYDERABAD
MYSORE
MADRAS
CALCUTTA
BOMBAY
CEYLON
Andaman I.s

NOTE.

The first foot note on page 23 should read thus:—

"The earnings of the Bombay, Baroda, and Central India Railway Company "would also have been larger, but for an outlay of 49,768*l.* from revenue for "repairs to the Nerbudda and Saburmuttee Bridges."

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1876-77.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
FOR HER MAJESTY'S STATIONERY OFFICE.

1877.

[C.—1823.] *Price* 1*s.*

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REPORT.

To the Most Honourable the MARQUIS of SALISBURY, &c., &c.

MY LORD MARQUIS, India Office, June 1877.

I HAVE the honour to lay before your Lordship my seventeenth Annual Report on the progress and working of the Indian Railway system.

Progress in 1876.

2. During the year 1876, 479 miles of new line were opened for traffic. The whole extent now completed is 6,948 miles. Of these, 767 are constructed with a double, and 6,179 with a single line; 5,748 are on the 5 ft. 6 in. gauge, 1,162 on the metre, 27½ on a four feet gauge, and 20, in the Guicowar of Baroda's territory, on a 2 ft. 6 in. gauge.

3. The lines opened since the end of 1875 comprise 297½ miles of the South Indian Railway, which is now complete with the exception of a section, 37 miles in length, south of Cuddalore; 103* miles of the Northern Punjab State line, extending from Lahore to Jhelum; 20 miles of the Rajputana; 13 miles of the Holkar State Railway between Khandwa and Chual Choki, and between Mhow and Indore; 36½ miles on the Neemuch State Railway, and 9 miles on the Pali branch of the Bombay and Baroda Railway. I understand also, although it has not been officially announced, that the line from Rangoon to Prome has been opened.

Northern Bengal line.

4. At the same time progress has been made on other lines in course of construction. It is expected that the Northern Bengal Railway will be opened some time this year to Jalpaiguri, 173 miles from Sara, the point on the Ganges from which it starts. At Jalpaiguri the line falls short of the foot of the Hills below Darjeeling by 33 miles. This gap is a serious one for traffic, and it will be very desirable to extend the railway so as to make it as serviceable as possible as well for the industries of Darjeeling as for the districts in Thibet, with which a small trade is now carried on. At its southern terminus on the Ganges it will be connected with the Eastern Bengal Railway by a ferry across the river, and by a short branch from the right bank to the station on that line.

Tirhoot.

5. The line in Tirhoot, which was originally constructed as a temporary work during the famine season of 1874, has been made a permanent one as far as Durbanga, about 45 miles. A branch has also been thrown out from it at Somastipur to Mozufferpoor.

Punjab, Northern.

6. The Northern Punjab line, which is being constructed on the 5 ft. 6 in. gauge is nearly complete and ready for traffic as far as Jhelum. The bridge over the Chenab between Lahore and Wazirabad was opened by His Royal Highness the Prince of Wales in January 1876. The traffic on the narrow gauge line which had been laid down between Lahore and Wazirabad has been going on during the construction of the other line.

Indus Valley.

7. Considerable advance has been made with the works on the Indus Valley line. A length of 107 miles, extending from Moultan to Chunni Ghote, was opened for goods traffic during the dry season, a temporary bridge having been put up over the Sutlej at Adamwahan. A further length of 171 to Rohri is expected to be opened in December. From Sukkur, on the opposite side of the Indus, to Kotree, the terminus of the Sind Railway, the line is expected to be opened this month. The bridge over the Indus at Rohri has not been commenced, nor has the design yet been settled; but the permanent one over the Sutlej at the place above mentioned will be completed in March 1878.

* Sixty-two miles of this line was originally constructed on the narrow gauge and used as a temporary work.

Wardha Valley.

8. The completion of the Wardha Valley Railway in Central India is only impeded by the bridges. Mr. Armstrong, the late Chief Engineer, reported that "the whole of the Wardha Valley Railway will not be opened for regular "traffic until the Wurrora and Pothra viaducts are finished. The Wurrora may "be finished by July 1877, but the Pothra not before February 1878, as "works can only proceed on budget grants, which are limited, and have been."

Bombay, Baroda, and Central India, Dakor branch.

9. The Pali extension of the Dakor branch of the Bombay, Baroda, and Central India Railway is an illustration of the moderate cost at which railway works may, in favourable situations, be executed. The line is 13·83 miles in length, is of the 5 ft. 6 in. gauge, and is laid with 60 lbs. rails on iron bowl sleepers. The stations are plainly built, but of sufficient size for their purpose. The total cost has been Rs. 6,14,950, being about 4,000*l.* a mile.

Nerbudda railway bridge on Indore line.

10. An important link has been added to the line of communication between Central India and the North-West Provinces, *vid* Indore, by the completion of the bridge over the Nerbudda river. This is the third railway bridge over that river, and was opened on the 5th October by Maharajah Holkar, who promoted the undertaking in the first instance by advancing 1,000,000*l.* to the Government at 4½ per cent. per annum. The first stone of the bridge was laid by Lord Northbrook in December 1872.

Railway works in Southern India.

11. In Southern India, besides the progress made on the South Indian Railway, certain famine relief works have been going on. Among these are included the doubling of the line between Madras and Arconum, where the north-west and south-west lines join, and the earthworks for an extension of the Arconum and Conjeveram branch of the South Indian line to Chingleput, where it will be connected with that Company's main system. Towards Bombay also, in the Dekkan, a chord line extending from Dhond on the south-eastern line to Munmar on the north-eastern line of the Great Indian Peninsula Railway has been made as a relief work, but it is not likely to be carried out to completion at present.

Nawab of Rampoor's offer.

12. Another example has been given of the desire of a Native Chief to encourage railway extension. The Nawab of Rampore has offered to contribute half the capital for the construction of a line from Moradabad to Rampore, on condition, however, that the Government will guarantee 5 per cent on the amount paid by him, and that he is not expected to build bridges over the Ramgunga and Kosee rivers.

Steamer service between Goalundo and Dacca.

13. In connection with the subject of railway extension, I may mention that the improvement of the steam communication between Goalundo, the terminus of the Eastern Bengal Railway, and Dacca, has occupied the attention of the Government and railway authorities, and measures have been taken for establishing a daily service by which passengers and mails will be taken from Calcutta to Dacca within 24 hours. Nothing, I regret to say, has yet been done with regard to the improvement, so much required, of the river service to Assam, notwithstanding the endeavours of the Agent of the Company to make arrangements with the Indian General Steam Navigation Company for the purpose.

Goalundo terminus.

14. Although the encroachments of the river at Goalundo have continued (slightly as compared with former years), and a vigilant look out at a particular period of the rains was necessary in order to shift the rails and landing stages so as to accommodate the boat traffic, the prospects of the place are promising, and the population and trade increases. The arrangements for the railway station are of a very temporary and inexpensive character, consisting of sheds and houses made of timber and bamboo, with tiled roofs.

15. The cyclone and sea wave which visited the Bay of Bengal, and produced such appalling devastation on the north-east coast and islands adjoining, did not, fortunately, proceed more north, nor reach any of the provinces traversed by the Bengal lines.

Flood damages, Punjab.

16. But in other parts of India considerable flood damage was done. In the Punjab, the period during which the floods continued in the Sutlej river was said to be unprecedented, a length of from 10 to 14 days occurring before any sensible subsidence took place. Two piers of the Punjab and Delhi bridge over that river were carried away on the 10th and 11th August, leaving a gap of 334 feet, and interrupting the traffic until the 12th October, when it was taken over in boats. The most economical way of repairing the damage was by extending

the revetment now existing so as to fill up the space. This was accomplished by the 12th December.

17. On the western coast, also, the Bombay, Baroda, and Central India Railway suffered severely. Twenty-five spans of the bridge over the Nerbudda were swept away on the 6th September, and three servants of the Company were drowned. The rainfall at Surat, close by, was 17 inches in 16½ hours. The engineering staff of the Company immediately set to work to restore communication, and they succeeded in doing so on the 30th October by a diversion on a low level staging. They also applied themselves to repair the broken spans, and so well were their plans organized, that the bridge was finished and opened for traffic on the 28th April. Enough, however, had occurred to show that its stability cannot be depended upon, and the repeated interruptions to traffic, which means loss of revenue, pointed to the conclusion that, both on the grounds of safety and economy, it was desirable to adopt measures for establishing a more perfect means of crossing the river. After much deliberation, it has been determined to erect a new bridge, altogether upon different principles. Instead of being supported by screw piles, and having 67 spans of 62½ feet, the bridge about to be constructed will have only 25 spans, and the superstructure, which will consist of iron girders, 187 feet 6 inches in length, will be supported by piers formed of two iron cylinders, placed 37 feet 6 inches apart, centre to centre, 14 feet in diameter, for a height of 33 feet from the bottom, and 10 feet above that. It has been designed by Sir John Hawkshaw, and a contract has been made with Messrs. Hopkins, Gilkes, & Co. for the provision and delivery in India of all the ironwork, for a sum of 148,930*l*. Other materials will come to about 30,000*l*., and it is estimated by the Agent and Chief Engineer that the cost of erection will amount to 92,500*l*. more. The materials of the old bridge will be available for minor structures in other places, and for increasing the stability of existing bridges, for there can be no doubt that other bridges on this line will have to be strengthened, and it is not improbable that the same course will be followed with regard to the present bridge over the Mhye river as has been taken with the Nerbudda. Nerbudda bridge on Bombay and Baroda.

18. The East Indian and the Great Indian Peninsula Railways have been comparatively exempt from damage. At the Calcutta terminus of the former, however, a very unexpected and unusual fall of rain occurred in January last, and caused considerable damage to goods, especially grain, which had been accumulated at the Howrah station, and which were unprotected from the weather. Compensation to the extent of Rs. 1.10.400 had to be paid to the owners. On the Bhore Ghat, on the Great Indian Peninsula Railway, several slips occurred during the rains, but they were generally of a slight character, and did not cause any accidents. Disintegration of the rock through which some of the cuttings have been made is going on, and it is necessary to keep a watchful look out during the monsoon. East Indian. Great Indian Peninsula.

19. No commencement has yet been made with the continuation of the Rajputana line from Ajmere to Ahmedabad, by Pahlanpore, but it is regarded as the first new railway which is to be undertaken when the state of the finances will admit of the expenditure. West Rajpootana line.

20. Nothing has yet been decided with regard to the extension to the Punjab and Delhi line at Saharunpore of the Oudh and Rohilkund Railway, the northern terminus of which is now at Moradabad. Several alternative routes have been examined, and plans and estimates prepared for each. The whole subject is, therefore, in a position to be fully considered, and is now engaging the attention of the Government of India. One route, *viâ* Nujeebabad, Hurdwar, and Roorkee, is 128¾ miles in length, and is estimated to cost Rs. 1,58,59,314. Another, *viâ* Nujeebabad and Roorkee, leaving Hurdwar to the north, is 114½ miles, and is estimated to cost Rs. 1,43,43,762, and a third, *viâ* Nugeenah, Keerutpore, and Roorkee, is 114⅓ miles in length, and is estimated to cost Rs. 1,33,98,886. This last would cross the Ganges at Balawala. Oudh and Rohilkund extensions.

21. At the Benares end, the extension of the line by tramway to the river bank from the cantonment, has been commenced, but nothing has been yet settled about a bridge across the Ganges, whereby a junction with the East Indian Railway would be effected.

22. A proposition has been made, by parties who have obtained from the Portuguese Government a long lease of the port and harbour of Marmagoa, to extend a Projected line from Goa to Bellary.

line of railway, which they have agreed to make from that port to the Portuguese frontier, to Bellary through Dharwar, New Hooblee, Judduck, and Copal. They ask for the grant in perpetuity of all land that may be required for the railway, and for permission to excavate and appropriate, on any waste land at the disposal of Government, all such stone, limestone, or earth as may be required for embankments, bridges, stations, and houses; and they offer the same concessions with respect to the conveyance of mails and troops as have been made with the Guaranteed Companies. The whole subject is now under the consideration of the Government of India.

23. The following table gives the length of each undertaking, and the extent opened on the 1st January 1877 :—

	Railway.	Gauge.	Length of Line sanctioned.	Length opened during 1876, or since.	Total Length opened.	Portion laid with Double Line.	Length remaining to be finished.
Guaranteed.	East Indian — Main line	5′ 6″	1,280	—	1,280	410¾	—
	East Indian — Jabbalpur line		223¾	—	223¾	—	—
	Great Indian Peninsula	5′ 6″	1,288	—	1,288	325	—
	Madras	5′ 6″	858	—	858	3⅛	—
	Bombay, Baroda, and Central India	5′ 6″	417	9	417	23¼	—
	Scind, Punjab, and Delhi	5′ 6″	663¾	—	663¾	4½	—
	South Indian	3′ 3⅜″	617¾	297½	580¾	—	37
	Eastern Bengal	5′ 6″	159¾	¾	158¼	—	1½
	Oudh and Rohilkund	5′ 6″	711	—	544¼	—	166¾
State.	Nalhati	4′ 0″	27½	—	27½	—	—
	Calcutta and South-eastern	5′ 6″	28	—	28	—	—
	Northern Bengal	3′ 3⅜″	373	—	—	—	373
	Punjab Northern	5′ 6″	267½	103	103*	—	164½
	Indus Valley	5′ 6″	508	—	—	—	508
	Rajputana (Agra and Delhi to Nasirabad)	3′ 3⅜″	400	20¼	400	—	—
	Neemuch (Indore to Neemuch)	3′ 3⅜″	303½	36½	36½	—	267
	Indore to Khandwa (Holkar's)	3′ 3⅜″	85½	13	70	—	15½
	Patri branch of Bombay, Baroda, and Central India Railway	5′ 6″	22½	—	22½	—	—
	Wurdha Valley	5′ 6″	46½	—	18	—	28½
	Tirhut	3′ 3⅜″	93	—	45	—	48
	Rangoon and Irrawaddy Valley	3′ 3⅜″	367	—	—	—	367
	Sindia (Agra to Gwalior)	5′ 6″	72	—	—	—	72
	West Rajputana	3′ 3⅜″	314¾	—	—	—	314¾
	Nagpur and Chattisgarh	3′ 3⅜″	123½	—	—	—	123½
	BERAR.						
	Khamgaon	5′ 6″	7½	—	7½	—	—
	Amraoti	5′ 6″	5½	—	5½	—	—
	NIZAM'S GOVERNMENT.						
	Wadi to Hyderabad and Secunderabad	5′ 6″	121	—	121	—	—
	PROVINCIAL.						
	Muttra and Hathras	3′ 3⅜″	30	—	30	—	—
	Gaekwar of Baroda's, from Iniagam to Dubhoe	2′ 6″	20	—	20	—	—
	Total		9,435¼	479½	6,948¼	767	2,487

* In lieu of 62 miles of temporary line.

24. The following statement exhibits the annual progress made in the construction of railways since their commencement:—

Railways.	Length of Line open at the end of each Year.																						
	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876
East Indian Railway (including Jabalpur).	Miles. —	Miles. 37½	Miles. 120½	Miles. 120½	Miles. 120½	Miles. 141	Miles. 234½	Miles. 367½	Miles. 563½	Miles. 883½	Miles. 987	Miles. 1,105½	Miles. 1,129½	Miles. 1,129½	Miles. 1,353	Miles. 1,353	Miles. 1,353	Miles. 1,353	Miles. 1,503½	Miles. 1,503½	Miles. 1,503½	Miles. 1,503½	Miles. 1,503½	Miles 1,503
Great Indian Peninsula.	21½	34½	50½	88½	88½	194½	245½	297½	437½	464½	553	585½	701½	815½	852	875½	879½	1,287½	1,271½	1,277½	1,278½	1,278½	1,278½	1,288
Madras	—	—	—	65½	80½	95	95	136	297½	447	447	571	611	645	645	677½	707½	782½	851½	851½	857½	857½	856½	856
Bombay, Baroda, & Central India.	—	—	—	—	—	—	—	35	132	185	185	305½	305½	305½	305½	305½	307½	307½	349½	388	389½	406½	408	417
Scind	—	—	—	—	—	—	—	—	105½	105½	105½	105½	105½	108½	108½	108½	108½	108½	108½	105½	105½	105½	105½	105
Punjab	—	—	—	—	—	—	—	—	—	32	45	45	253	253	246	246	246	553½	553½	553½	553½	553½	558½	558
Delhi	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	53	270							
Great Southern of India, now South Indian.	—	—	—	—	—	—	—	—	49	79	79	79	79	127	144	168	168	168	168	168	168	*185½	233½	580
Carnatic, now South Indian.	—	—	—	—	—	—	—	—	—	—	—	—	18½	18½	18½	18½	18½	18½	18½	18½	18½			
Eastern Bengal	—	—	—	—	—	—	—	—	—	110	110	110	110	110	113½	113½	112	112	156½	156½	158½	158½	157½	159
Oudh and Rohilkund.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	42	42	42	42	294	455	539½	542½	544
Calcutta & South-eastern.	—	—	—	—	—	—	—	—	15	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
Punjab Northern	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	62†	103
Nalhati	—	—	—	—	—	—	—	—	—	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27
Khamgaon	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7½	7½	7½	7½	7½	7½	7
Amraoti	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5½	5½	5½	5½	5½	5
Rajputana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92½	292	379½	400
Holkar	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	67	70
Neemuch	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36
Patri	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22½	22½	22½	22
Wurdha Valley	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19	18	18
Tirhut	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53	44	43
Nizam's	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121	121
Muttra & Hathras	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30	30
Baroda State	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Total	21½	72	171	274½	289½	430½	624½	836½	1,581½	2,351½	2,516½	2,962½	3,362½	3,568	3,936½	4,016½	4,261	4,766½	5,072	5,365½	5,671½	6,201	6,497½	6,94

*The Great Southern of India Railway has, on re-measurement, been found to be 167 miles only. †Temporary Line.

25. The time will soon arrive when it will be necessary to decide upon the course to be taken with regard to the East Indian Railway Company on the expiration of the first term of their lease. This will occur in 1879, in February of which year the Government will have the option of giving notice of their intention to purchase the main line on the terms specified in the contract. The first term of the lease of the Jubbulpore line does not terminate till the year 1883. Expiration of the first term of the East Indian Company's main line.

26. The Railway Conference, which was to have assembled in Calcutta in January last, was postponed, in consequence of the inability of many of the chief officers of the railways to be absent from their duty during the press of work occasioned by the traffic arrangements connected with the supply of food to the famine-stricken districts in the Bombay and Madras Presidencies. Many questions of interest and importance had been selected for discussion, including the establishment of a clearing house; the assimilation of systems of working, and of regulations; the adaptation of rolling stock to military purposes; the simplification and reduction of goods tariff; continuous brake power; communication between passengers, guards, and drivers; uniformity of statistics of traffic and of returns of accidents. Conference.

27. The arrangements connected with the Conference had been committed to Captain Kellow Pye, R.E., whose lamented death, subsequent to its postponement, has deprived the Government of a very able and rising public servant, and the Railway Department especially, of one of its most efficient officers.

28. In my last Report an account was given of certain experiments which had been made on the 5 ft. 6 in. gauge railways, to ascertain how railways can be made most available for military use in India.

Military capabilities of the metre gauge lines.

29. In January last a Committee, of which Brigadier-General H. R. Browne was President, was appointed by the Government of India to report on the military capabilities of the metre gauge railways. The Committee met at Agra, where experiments with metre gauge vehicles were carried out. They found that a first class passenger carriage would convey nine officers seated or four lying down; a second class, 18 officers or men seated or 12 lying down; a third class, 24 European or Native soldiers, in marching order, or 32 followers; that covered goods or cattle waggons would accommodate 12 British or Native soldiers in marching order with kits, or eight British with kits and one E. P. tent, or nine sepoys with kits and half-company pâl; that either of these waggons would convey 80 kits of British or Native soldiers packed in suleetahs in the usual way, or eight tents E. P. pattern, kettles, and equipment complete (with the exception of the poles, which must be lashed on the roof or placed on an open truck), or 16 sepoy's pâls complete. The ordinary horse-boxes or cattle waggons admitted, they found, two horses with ease and a third on emergency, if the animals are quiet and properly attended to. In the open trucks the accommodation would be the same, if the horses are placed longitudinally, but if standing transversely four may be embarked in the same waggon. This arrangement, however, is not free from risk of accident, in consequence of the heads of the animals protruding beyond the sides. A new class of waggon of increased length, suitable for four horses, is being introduced. Bullocks, they observe, are steadier and less liable to frights than horses, and may therefore be more safely conveyed in the goods waggons. Three large or four small draught bullocks may be placed in a covered goods waggon, and four to six in open waggons 13 ft. 6 in. in length, fitted with temporary side rails.

30. In reply to the question, "Can a siege train be conveyed?" the Committee say, "There is no difficulty in conveying the heaviest ordnance in use in "Indian siege trains on the metre gauge, or in loading and unloading it from "ordinary station platforms," and "at all places where break of gauge occurs, "heavy ordnance may be transferred from the waggons of one line to those of "another with great facility, by using the travelling or fixed cranes belonging to "the railway, the rate of transfer, with a single crane, averaging 15 to 20 minutes "for each heavy gun, with its carriage and limber." With reference to the conveyance of a heavy field battery (40-pounder Armstrong, &c.), they are of opinion that no difficulty would occur in its transport, and that it would require 136 vehicles, consisting of 1 first class carriage, 16 third class, 78 horse or cattle trucks, 33 low-sided trucks, 7 covered goods waggons, and 1 ammunition van.

Alterations necessary in existing vehicles.

31. These opinions are the result of careful experiments, which were conducted under the directions of the Committee. In order to make the rolling stock on the railways as available as possible for military purposes, certain alterations will be necessary, both in the 5 ft. 6 in. and the metre gauge waggons, and these can be carried out by degrees as repairs and renewals are required, without detriment to the vehicle as a conveyance for merchandise. The expense—estimated at 150,000*l.*—would be too large to be incurred at once. The expediency of considering the suitability of the railway permanent way and stock for military stores and ordnance is exemplified by the break down which has occurred on the Roumanian railways, in consequence of the heavy pressure of the war traffic.

Approach roads to railway stations.

32. Complaints continue to be made of the absence, in many parts of the country served by railways, of approach roads to the stations. The advantage of these communications, both to the districts and to the railways, is fully acknowledged, and the Government of India has urged "upon Local Governments and Administrations, and upon the rulers of Native States, the utmost possible efforts in "respect to feeder roads," recommending that if the funds at the disposal of these authorities are too limited to meet all demands for public works, preference should be given to roads over civil buildings, inasmuch as the money spent upon the former will contribute to the remunerativeness of railways and repay itself. In a recent Despatch from your Lordship to the Viceroy, these views are fully endorsed, and the trust is expressed that the Government "may find it possible "to take such steps as shall at all events secure the opening out and maintaining "in proper condition approach roads to all railway stations where they do not now "exist, and that no considerable delay may be permitted to occur before this "very essential object is attained."

33. The Chief Engineer of the Oudh and Rohilkhund Railway, at the last inspection of the line, called attention to the fact that small villages were springing up just outside many of the station premises, and suggested "that some system should "be observed in their construction, and that they should be under some control "as to sanitary arrangements." The subject is one worthy of consideration, not only in Oudh, but in other parts of India. The Government Consulting Engineer supported the proposition, and further suggested that "the houses should be "tiled, and not thatched, as there is some danger of sparks flying that distance." Station villages.

34. Arrangements have now been made with all the Companies, excepting the Great Indian Peninsula, for transferring to the Government their telegraph systems, such wires being left for the use of the railways as are required for the working of the traffic. Transfer of telegraphs to Government.

35. In the report of Captain Portman, Superintendent of Police for the Bombay, Baroda, and Central India Railway, illustrations are given of the various offences committed on railways in India. Two cases of dacoity are mentioned, consisting of night attacks upon stations for the sake of plunder. There is a case of robbery by a female, who administered to a fellow passenger a powerful narcotic, which she described as a "pussad," or sacred sweet, and was taken as such by her victim. She was found asleep in the carriage, deprived of her ornaments and money. Thefts and embezzlement under false declaration of goods are sometimes practised. Bags of gunpowder are despatched as groceries, and opium is smuggled in oil jars, the drug being packed between narrow receptacles for oil one passing through the middle of the jar and another just inside the covering. Opium is also sent in bags, described as containing gum, glue, &c. Police cases.

36. There have been changes in the heads of the staff of several of the railways during the year. In consequence of the lamented death of Mr. Cecil Stephenson, who had done good service for many years on the East Indian Railway in various positions, and lastly as Agent, and also the retirement of the able Chief Engineer, Mr. George Sibley, Mr. Bradford Leslie was selected to fill the joint office of Agent and Chief Engineer. Mr. Charles Currey, the very efficient Agent of the Bombay, Baroda, and Central India Railway, having accepted the post of Secretary to the Company in London, in succession to the late Mr. Baynes, Mr. F. Mathew, the zealous and energetic Chief Engineer in India, was appointed Agent as well. The retirement of Mr. Harrison, after many years' good service as Chief Engineer and acting Agent of the Sinde, Punjab, and Delhi Company, was followed by the appointment to the agency of Mr. Roscoe Bocquet, the Locomotive Superintendent. On the Great Indian Peninsula Railway also, Mr. H. P. Le Mesurier, C.S.I., who was formerly Chief Engineer in the Jubbulpore line of the East Indian, and did good service in the Punjab during the mutiny, resigned the appointment of Agent which he had held for some years, to become a member of the Railway Commission in Egypt. The Auditor, Mr. Barnett, is now acting as Agent. Indian staff.

PROCEEDINGS IN THIS COUNTRY.

37. The following tables exhibit the shipping operations of the Companies and the Government in this country:—

SHIPPING OPERATIONS, exclusive of Fuel, during 1876, on Account of Guaranteed and State Railways.

Railway.	Number of Ships employed in 1876.	Number of Tons of Goods shipped in 1876.	Value of Goods shipped in 1876.	Amount paid for Freight and Insurance in 1876.	Average Rate of Freight and Insurance per Ton.
		Tons.	£	£	£ s. d.
East Indian - - -	64	31,706	239,035	30,009	0 19 0
Great Indian Peninsula - -	118	135,228	178,558	158,676	1 3 5¼
Madras - - - -	28	9,362	85,439	12,065	1 5 9
Bombay, Baroda, and Central India	47	8,200	66,279	11,606	1 8 4
Scinde, Punjab, and Delhi -	19	2,091	49,885	5,492	2 12 6
South Indian - - -	30	13,536	131,568	18,596	1 7 5
Eastern Bengal - - -	18	933	6,258	1,087	1 3 3
Oude and Rohilkund - -	37	5,448	136,043	9,254	1 14 0
State Railways - - -	226	90,297	680,929	111,342	1 4 8
Total - - -	587	296,801	1,573,994	358,127	—

AMOUNT and COST of COAL and other FUEL sent out from this Country in 1876.

Railway Company.	Number of Tons supplied from England.			Total original Cost.			Sum paid for Freight and Insurance.	Average Cost of each Ton when bought in England.			Average Cost of each Ton delivered in India.		
	Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.		Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.
				£	£	£	£	£ s. d.	s. d.	s. d.	£ s. d.	s. d.	s. d.
East Indian -	—	883	* —	—	2,153	—	—†	—	48 9	—	—	—	—
Great Indian Peninsula -	118,666	—	—	68,428	—	—	131,756	11 6¼	—	—	33 9	—	—
Madras - -	—	1,781	—	—	1,514	—	12,640	—	17 0	—	—	47 2‖	
Bombay, Baroda, & Central India	20,922	—	—	34,288	—	—	—‡	1 13 9	—	—	1 13 9	—	—
Scinde, Punjab, and Delhi -	5,876	97	*112	9,416	309	—	—§	—	32 1	65 8	32 1	63 8	—
South Indian -	19,272	305	—	10,856	241	—	18,848	11 3	15 10	—	33 0	39 6	—
Eastern Bengal -	200	100	—	152	136	—	173	15 3	27 3	—	24 9	42 11	—
Oude & Rohilkund	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals -	164,936	3,166	112	123,140	4,353	—	—	—	—	—	—	—	—

* Sample to be paid for on approval. † Included in cost of coke. ‡ Included in price of coal. § Included in original cost.
‖ This price includes all charges until delivery is taken from the sides of the ships at Madras. The landing charges are about 3s. a ton.

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.	Number of Ships lost.	Number of Tons of Goods shipped.	Amount paid in England for Goods shipped.
				£
Up to end of 1860 - -	2,605	39	2,094,686	10,431,976
In 1861 - - - -	407	—	181,621	1,669,443
„ 1862 - - - -	280	1	138,013	1,487,582
„ 1863 - - - -	279	2	166,840	1,285,464
„ 1864 - - - -	233	—	102,318	1,018,164
„ 1865 - - - -	442	2	199,157	1,729,543
„ 1866 - - - -	581	7	312,227	2,527,757
„ 1867 - - - -	512	5	333,329	3,052,652
„ 1868 - - - -	364	3	188,858	1,849,554
„ 1869 - - - -	455	1	211,750	1,432,784
„ 1870 - - - -	461	1	263,449	1,688,209
„ 1871 - - - -	307	6	168,049	707,765
„ 1872 - - - -	318	1	66,534	655,822
„ 1873 - - - -	404	2	201,590	1,561,602
„ 1874 - - - -	426	5	265,114	2,042,136
„ 1875 - - - -	421	—	288,186	1,518,991
„ 1876 - - - -	587	—	296 801	680,929
Total - -	9,082	75	5,480,525	35,340,373

38. The proprietors have increased in number from 62,608 to 63,228. The insignificant number of those who held stock or shares in India has become still less, owing to purchases for transfer to the Home Registers as a remittance: the Europeans being reduced from 407 to 293, and the Natives from 390 to 367. The proportion of stock held in India is about 1·50 per cent. of the whole.

Railway.	Number of Shareholders on 31st December 1876.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1876.
	Registered in England.			In India.					
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.	Bonds.	Stock.	
East Indian - - -	7,201	8,558	16,059	103	149	252	586	864	17,761
Great Indian Peninsula -	5,670	7,656	13,326	68	125	193	534	1,523	15,576
Madras - - -	3,145	4,257	7,402	—	—	—	24	—	7,426
Bombay, Baroda, and Central India -	2,470	3,885	6,355	9	38	47	1	—	6,403
Scinde, Punjab, and Delhi - - -	3,447	5,376	8,823	48	11	59	—	—	8,882
South Indian - -	941	1,454	2,395	No register in India.			—	142	2,537
Eastern Bengal - -	704	954	1,658	19	20	39	40	199	1,936
Oude and Rohilkund -	1,095	1,398	2,493	46	24	70	—	144	2,707
Total - -	24,673	33,538	58,571	293	367	660	1,185	2,872	63,228

NUMBER of LOCOMOTIVES and VEHICLES owned by the GUARANTEED RAILWAY COMPANIES.

Railway Company.	Locomotives.			Passenger Carriages.		Goods Trucks and Waggons.		Total Number of Vehicles on 31st December 1876.
	Former Number.	Added or Withdrawn in 1876.	Total Number, 31st Dec. 1876.	Former Number.	Added in 1876.	Former Number.	Added or Deducted in 1876.	
East Indian - -	515	†−4	511	954	28	6,664	37	7,683
Great Indian Peninsula -	345	—	345	1,312	2	6,681	−2	7,993
Madras - - -	128	—	128	383	8	3,205	—	3,596
Bombay, Baroda, and Central India - - -	85	−5	80	295	—	2,739	−31	3,003
Scinde, Punjab, and Delhi -	156	—	156	509	25	2,995	−68	3,461
South Indian - -	*60	+42	93	226	116	‡936	+520	1,675
Eastern Bengal - -	43	—	43	167	+2	707	−6	870
Oude and Rohilkund -	62	+7	69	302	+20	1,200	+294	1,816

* 9 locomotives sold to the Punjab Northern State Railway.
† 2 sold, 2 condemned.
‡ 123 goods vehicles sold to the Punjab Northern State Railway.

NUMERICAL RETURN of all Races employed on open Lines of Railways and on the Indus Flotilla on the 30th September 1876.

Railways	General Administration, including Agency, Audit, Account, Paymasters', Stores, Medical, Barrack, Printing, Stationery, and Police Establishments.				Traffic and Telegraph Departments.				Engineers' Department.				Locomotive and Carriage and Waggon Departments, including Steamboat Establishment.				Total.				Number of Miles Open.	Number of Stations.	Remarks.
	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.			
East Indian	74	32	3,008	3,114	282	188	8,533	9,003	72	15	10,907	11,034	501	231	9,595	10,327	929	466	32,133	33,528	1,503½	155	(a.) Of these, 106 are extra men for miscellaneous work. (b.) This includes Chitpur and Koostia branches.
Eastern Bengal	15	—	683	698	67	29	2,469	2,565	12	2	(a)1,560	1,574	61	36	1,628	1,725	155	67	6,340	6,562	(b)158¾	33	
Oudh and Rohilkund	28	30	577	635	33	8	1,026	1,070	29	10	2,300	2,339	71	32	2,145	2,248	161	80	6,048	6,292	542¾	75	
Punjab and Delhi	55	12	598	665	80	31	1,533	1,653	25	7	3,393	3,425	119	36	2,643	2,798	288	86	8,167	8,541	553¾	51	
Sind (including Indus Steam Flotilla).	3	14	202	219	9	27	160	196	3	2	498	503	72	74	1,430	1,576	87	117	2,290	2,494	109¾	9	
Calcutta and South-Eastern (State).	(c) 2	—	12	14	—	—	59	59	—	1	107	108	(c) 1	1	82	84	3	2	260	265	28	8	(c.) One European is only employed in the General Administration and one in the Locomotive Department, of these two Railways, but entries are made against each line.
Nalhati (State)	(c) 1	—	10	11	—	—	31	31	—	—	69	69	(c) 1	—	60	61	2	—	170	172	27¼	7	
Rajputana („)	21	20	327	368	32	31	661	724	29	5	2,594	2,628	65	22	706	793	147	78	4,288	4,513	394½	48	Exclusive of the Agency Surgeon attending Railway employés on Rajputana State Railway.
Holkar and Neemuch („)	11	—	76	87	9	8	149	166	2	1	201	204	20	8	257	285	42	17	683	742	107	14	
Tirhut („)	6	2	52	60	2	1	126	129	19	3	261	283	8	1	134	143	35	7	573	615	45	7	
Punjab, Northern („)	10	2	84	96	13	15	43	71	2	—	80	82	12	5	76	93	37	22	283	342	103	14	
Madras	16	46	502	564	29	338	1,957	2,324	30	93	4,370	4,493	145	421	2,879	3,445	220	898	9,708	10,826	857½	87	
South Indian	6	19	170	195	5	46	899	950	20	44	2,190	2,254	46	88	1,001	1,135	77	197	4,260	4,534	477½	61	
Great Indian Peninsula	42	29	1,087	1,158	272	263	3,619	4,154	67	42	10,004	10,113	360	136	5,971	6,467	741	470	20,681	21,892	1,266½	137	
Bombay, Baroda, and Central India.	15	34	671	720	16	53	1,494	1,563	17	2	2,046	2,065	57	154	1,159	1,370	105	343	5,370	5,718	450½	78	
Railways under the control of the Government of India.	226	112	5,629	5,967	539	338	14,790	15,667	193	46	22,069	22,299	931	446	18,756	20,133	1,889	942	61,235	64,066	3,572¾	421	
Ditto ditto Madras	22	65	672	759	34	384	2,856	3,274	50	137	6,560	6,747	191	509	3,880	4,580	297	1,095	13,968	15,360	1,335½	148	
Ditto ditto Bombay	57	63	1,758	1,878	288	316	5,113	5,717	84	44	12,050	12,178	417	290	7,130	7,837	846	713	26 051	27,610	1,716½	215	
Total Indian Railways	305	240	8,059	8,604	861	1,038	22,759	24,658	327	227	40,670	41,224	1,539	1,245	29,766	32,550	3,032	2,750	101,254	107,036	6,621½	784	

PERSONS EMPLOYED ON THE RAILWAYS.

European and East Indian employés. Casualties.

39. It appears by the foregoing returns that, out of a total of 107,036 persons employed on the 6,624 open miles of railway on the 30th September last, 101,254 were Natives, 3,032 were Europeans, and 2,750 East Indians. The number of deaths amongst the Europeans was 60 or about 2 per cent., amongst the East Indians 34 or 1·24 per cent., during the preceding twelve months.

Children of Europeans and their education.

40. The Europeans, it will be seen, form only 2·83 per cent. of the whole number employed. It is not probable that this proportion will be materially reduced, and it is certain that there will always be a number of Europeans of the mechanical class who will reside many years, if not all their lives, in India, and raise a progeny there. I have not been able to obtain a complete return of the number and ages of the children now in India belonging to the European servants of the Railway Companies, but information as to these points and as to the means available for their education has been called for. We shall then be in a position to judge whether some more perfect arrangement than that which now exists may not be made for their bringing up. Not only should they receive mental and religious instruction, but their health and physical training should be attended to. There cannot be a doubt that European children who are allowed to remain in the plains of India until they reach maturity will be reduced to a feeble and flaccid condition, and that a second generation would degenerate still more. It is important, therefore, if they are to remain in India, that, both on their own account and in the interests of their adopted country, the opportunity should be given them of growing up as strong in mind and body as circumstances will permit. Where Europe is out of the question, attention will naturally be turned to one of the hill stations, as a more suitable place than the stifling towns of the plains, for the purposes of training children of this class. One or two boarding schools might, with the aid of the Government and the Companies, be established in some well selected situation, as central as possible, and the European and perhaps the East Indian railway employés would probably be glad to contribute their quota of the expense.

41. Some idea of the numbers to be provided for, and of the existing means of education, may be formed by a return relating to the East Indian Railway, the only one which has been obtained. It appears from this that at 32 stations there are 940 European children, and at 42 stations 749 half-caste children, of all ages, being 1,689 in all; that schools are provided at 13 stations, and that 34 stations are without them; that at the 13 stations there are 593 European and 509 half-caste children, 1,102 in all. There are thus 347 European and 240 half-caste children who have no schools to go to, and who are dependent on parental or private teaching. The total number of European employés on the East Indian Railway is 929, and of East Indians 466, so that the average proportion of children to adults is in the case of Europeans not quite 1 per cent., and in the case of East Indians ·62 per cent. Applying the same proportion to the whole of the railway employés in India, there would be about 3,000 European children, and 1,870 East Indian, to be brought up. A considerable number of these would be infants, or under five years of age, and consequently not eligible for a public institution. But a large number still remain. We shall know the exact number when the returns called for are made. In the meantime it may be worth while to consider, in all its bearings, the whole question of the training of these Indian born English children. I may mention that doubts have already been raised as to the character of the education given. The Archdeacon of Calcutta, after visiting the railway schools in Upper India, expressed his opinion that the education given "is not up to the standard taught in the English National Schools," and he doubts whether it fully qualifies the boys "for the occupations suitable to their "stations in life." At Bombay, on the other hand, the education is reported to have been fairly successful. There, boarding schools have been already established, as well as night schools for the elder boys who are engaged during the day in the workshops.

Conduct of European servants on the railways.

42. The Europeans composing the class to which I have been referring have generally been well conducted and steady. Their pay is good, and they are provided

with suitable dwellings and various means of recreation and amusement. If they resist the temptation of drink, they have a fair prospect before them of competence and success. Harmony and good feeling has prevailed between the men and their superiors, but occasionally questions have arisen which have produced a little excitement and irritation. There was an example of this last year, but all misunderstanding was soon removed by tact and forbearance. In June the European guards and drivers of the East Indian Railway expressed their discontent with the arrangements under which they were employed. They complained that their pay, which was reduced when the traffic fell off, had not been restored to its former figure when the traffic improved; that they were not treated fairly with regard to overtime, Sunday allowances, promotion, &c. Meetings were held, and the men were brought face to face with Mr. Campbell. They were respectful, and he received their reasonable representations with consideration and good temper. Captain Wallace, R.E., Deputy Consulting Engineer to the Government, who had been appointed to investigate the cause of the discontent, acted also with great discretion, and was the means of bringing the matter to a satisfactory settlement. Admitted wrongs were redressed, a proper understanding was come to, and certain questions were reserved for consideration. It was also agreed that an attempt should be made to establish a uniform system of pay and allowances on all the railways. This would be very desirable, and the experience which has now been gained should not make it difficult to decide on what would be the best arrangement. The chief points seem to be to fix a reasonable rate of wages at starting, and to allow continuous good service to be rewarded by increased pay up to a proper maximum, to settle what is a fair day's work, and to guard against excessive overtime, which overtaxes a man's strength, and leads to the imperfect performance of his duty. This is a subject which will, no doubt, engage the attention of the next Conference.

Provident Funds.

43. The East Indian is the only Company which at present has contributed any of its revenue to a provident fund. On that line the fund has proved to be a great boon. The contribution is made out of the excess net profits over 6 per cent., both the Government and the Company agreeing to give up a proportionate amount of their surplus profits. The intended effect of the grant is to give every subscriber (and each servant when engaged is now compelled to be a subscriber) a personal interest in the success of the undertaking. A sum of 45,000*l.* has been contributed to the fund by the above method. The grant last year was upwards of 20,000*l.* Other Companies, it may be hoped, will likewise be in a position before long to confer a similar benefit on their officers and servants.

Native servants.

44. With regard to Native servants, I have only to observe, generally, that careful selection in the first instance, and proper training afterwards, have produced their natural fruits. Steadiness, self-possession, and other moral qualities, of which they are usually thought to be deficient, improve, and we have now many examples of well qualified drivers and pointsmen. Their competency as skilled workmen, whether as artificers, mechanicians, forgers, &c., has already been demonstrated by experience. Although requiring more skill and closer attention to work, the Native drivers and shunters appear to give more satisfaction than the guards, at least in Bengal. They are described as "strongly built men, and smart and intelligent." Mr. Campbell, the Locomotive Superintendent of the East Indian Railway, takes great pains in preparing them for their work. He is disposed to place confidence in them, and, after trial and experience, he advocates their increased employment.

ACCIDENTS.

45. The usual return of accidents for the past year has not yet been received from India. I am unable, therefore, to give more than an imperfect summary of those cases which have from time to time been reported by the Agents of the Companies. The most disastrous accident was one which occurred on the Madras line, near Amboor, at 2 o'clock on Christmas morning. The mail train and a special goods train were to have passed at that station; but the driver of the mail train, forgetting that he had to meet the special, drove through the station, at which no signal seems to have been exhibited, and came into collision with the special two miles further on. One composite, two third class, and three waggons were smashed, and 12 lives were lost, ten passengers being killed on the

spot. The driver, station master, and assistant station master were prosecuted and punished by fines and imprisonment.

46. One or two malicious attempts to injure and upset trains have been made. On the East Indian Railway a rail was removed from a culvert just before the mail on the night of the 11th August was expected. The attempt was, happily, discovered by the driver of a light pilot engine which happened that evening to be passing in front of the train. A similar attempt was made on the Eastern Bengal, and the motive was traced to be that of revenge for injury done to the crops by the railway. On the Madras and South Indian lines the same attempts were made.

47. On the Oudh and Rohilkund, damage was caused by the sparks from an engine, and an action was brought against the Company to recover the loss. Judgment was given in favour of the plaintiffs by the Assistant Commissioner before whom the case was tried, and confirmed by the Commissioner of the District, on the ground that the Company possessed no legislative power to use locomotives. Strange though this reason may appear, it seems that there was ground for it. In order that, in future, all doubts may be removed, it has been suggested that the new Railway Bill about to be introduced into the Legislative Council for consolidating all existing Acts relating to Indian Railways should contain a clause by which the power to use locomotives on railways should be distinctly given.

48. On the South Indian, a child fell out of a carriage while the train was in motion. The mother jumped out after it, and both were picked up uninjured. On the same line, a cow-catcher was the means of saving a human being. A Native woman, who afterwards said she was tired of life, placed herself between the rails just as a train approached. She was caught up by the cow-catcher, and pitched, unhurt, on the side of the line.

49. One fatal accident occurred to a Native on the Punjab line, through his own misdemeanour. He travelled some distance on the buffer of a waggon, and on jumping off when the train was approaching a station, with a view, it is supposed, of evading payment of his fare, was run over and killed.

50. Although unable to give more than the summary contained in the subjoined table, I am able to say, judging from the detailed returns relating to one or two lines, that the system of reporting and investigating accidents is very complete. Whether it be that a cooly employed in carrying materials or in excavating gravel is injured, that a workman is hurt in the shops, that a bungalow takes fire, that injectors of an engine fail or a rod breaks, each case is noticed and reported as carefully as when a serious collision takes place or when a train is derailed. And this is quite right as a rule. The nature of an accident is apt to be judged solely by its actual results; but the grossest blunder may be less serious in its effects than a trivial mistake. A loose rail or an imperfect tyre may cause greater loss of life than the gap in a bridge or a collision between two trains. A signaller may give a wrong signal, and an accident may only be averted by the watchfulness of the driver. The investigation of an accident should have reference to the future as well as to the past, the object being to provide prospective safeguards as well as to detect blunders or neglect of duty. It becomes, therefore, often quite as important to inquire into what are regarded as trivial accidents and narrow escapes, as to take up the more serious cases. Nor should those which happen so frequently to passengers, and especially to railway servants, through causes within their control, be passed over, for even while individual sufferers may be at fault, checks might be used against negligence and recklessness on their part.

Accidents to Persons during the Year 1876.

	Passengers Killed or Injured from Causes beyond their control.		Passengers Killed or Injured from Misconduct or Incaution.		Railway Servants Killed or Injured from Causes beyond their control.		Railway Servants Killed or Injured from Misconduct or Incaution.		Persons Killed or Injured at Level Crossings.		Trespassers.		Miscellaneous.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
East Indian Main - -	1	6	9	22	5	1	15	31	—	1	46	4	2	6	78	71
Jubbulpore - - -	—	3	1	1	—	1	2	—	—	—	3	1	1	—	7	6
Great Indian Peninsula -	—	—	1	2	8	30	8	33	2	—	4	2	4	8	27	75
Madras - - -	10	13	1	5	1	4	9	18	1	—	3	3	2	1	27	44
Bombay, Baroda, and Central India.	—	5	—	1	1	15	7	8	—	1	3	1	1	1	12	32
Scinde, Punjab, and Delhi -	—	—	1	2	—	—	11	8	—	—	—	—	1	1	13	11
South India - -	—	—	—	3	—	2	—	15	1	—	1	—	—	—	2	20
Eastern Bengal - -	—	—	*1	1	1	—	3	5	—	—	1	1	1	1	7	8
Oudh and Rohilkund -	—	—	1	1	—	—	5	10	—	—	9	2	1	1	16	14
State Lines (no returns).																
	11	27	15	38	16	53	60	128	4	2	70	14	13	19	189	281

* Drowned from a steamer.

CAPITAL.

51. During the year 1876–77, the capital expenditure on the guaranteed railways was 879,665*l.* The accounts of the State lines have only been received up to the end of October last. At that time a sum of 2,946,947*l.* had been expended on them since the 1st January 1876.. It may be estimated that by the end of the year a further sum of 553,053*l.* had been appropriated to works in hand, making a total of about 3,500,000*l.* for the year. The greater part of the expenditure of guaranteed capital took place on the extensions of the South Indian, to which line, as before stated, nearly three hundred miles were added. On most of the railways very little was spent, and with regard to some, the total amount has been reduced by the sale of stores to other lines, as well as the transfer to revenue account of the value of such as were required for working and maintenance purposes.

52. During the current year more capital will be required on the open lines for the purchase of an additional stock of locomotives and waggons to meet increased traffic, and for the new bridge over the Nerbudda river on the Bombay and Baroda Railway. The development of the resources of the country which is now taking place, and the large traffic which has ensued, points to the probability of more expenditure in future years for the additional accommodation and means of transport that will be required.

53. The State lines on which the principal expenditure was incurred were the Northern Bengal, the Punjab Northern, and the Indus Valley.

54. The total amount of capital that had been expended up to the end of the year (adopting the estimate above made for the months of November and December on the State lines) was 109,364,867*l.*, of which 94,272,265*l.*, was on account of guaranteed, and 15,092,602*l.* on account of State lines. The details are given in the accompanying statements, prepared in the Accounts Departments of this Office.

55. The total amount of guaranteed capital that had been raised up to the 31st March last was 94,832,562*l.*, of which 84,374,121*l.* consisted of share capital, 4,766,300*l.* of debentures, 5,422,458*l.* of debenture stock, and 269,683*l.* of capital not bearing interest.

56. The rates of interest paid on the several descriptions of capital, and the amounts thereof, were as follows, on the 31st March last :—

		£
Share capital	at 5 per cent. - -	82,630,969
,,	,, 4¾ ,, - -	1,243,152
,,	,, 4½ ,, - -	500,000
Debentures	,, 4½ ,, - -	183,450
,,	,, 4¼ ,, - -	2,096,400
,,	,, 4 ,, - -	2,486,450
Debenture stock	,, 4½ ,, - -	1,925,000
,,	,, 4 ,, - -	3,497,458
Capital not bearing interest	- -	*269,683
		£94,832,562

	£	£
* Premium on share capital and debentures - -		562,263
Less, discount on debenture stock, viz. :—		
Stock represented as shown above - - -	5,422,458	
Cash received in respect thereof - - -	5,129,878	
		292,580
		£ 269,683

Statement No. 1.

Statement of Expenditure in England and India on Indian State Railways, appropriated to the various Undertakings as shown in Statements to 31st October 1876 (the latest date to which such Statements have been received from India).

State Railway.	Expenditure appropriated.			Classification of Expenditure.											
	England.	India.	Total.	Preliminary Expenses.	Land.	Construction of Line.	Ballast and Permanent Way.	Stations and Buildings.	Electric Telegraph.	Plant.	Rolling Stock.	Maintenance.	Establishment.	Contingencies.	Suspense Accounts.	Receipts on Capital Account.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Punjab, Northern	529,785	1,719,099	2,248,884	26,510	22,759	1,027,938	277,401	67,723	108	112,062	59,092	3,696	371,532	14,014	273,285	*7,146*
Indus Valley	629,133	2,572,798	3,201,931	61,616	12,564	1,150,115	589,170	115,292	658	99,887	205,159	4,395	419,527	27,793	521,056	*5,301*
Hubli and Carwar	2,502	52,812	55,314	—	—	—	—	—	—	—	—	—	53,674	1,640	—	—
Wardha Valley, Coal	51,026	375,975	427,001	8,474	341	124,270	199,557	25,232	—	13,779	241	415	34,557	1,489	19,026	*380*
Holkar	305,630	871,119	1,176,749	3,251	4,617	526,333	208,921	68,404	—	32,041	114,364	266	121,522	8,987	91,412	*3,369*
Neemach	269,962	398,987	668,949	20,972	424	123,191	186,681	27,961	—	14,872	6,345	969	89,510	5,699	193,243	*718*
Rajpootana	772,475	1,751,441	2,523,916	25,692	39,350	573,528	957,326	236,559	1,500	35,198	297,257	64	191,136	10,592	158,023	*2,309*
Western Rajpootana	—	52,313	52,313	4,269	—	—	—	—	—	1,994	—	—	43,258	2,260	537	*25*
Nulhatee	30,000	—	30,000	—	—	*30,000	—	—	—	—	—	—	—	—	—	—
Calcutta and South-eastern	268,424	422,400	690,824	6,769	108,507	104,596	155,774	57,164	3,693	8,270	122,481	—	86,773	18,766	18,031	—
Northern Bengal	242,664	700,801	943,465	8,287	32,453	246,665	125,758	20,637	2,828	21,629	496	2,270	117,523	9,557	357,714	*2,352*
Scindia	42,760	115,576	158,336	1,911	1	40,746	1,295	3,229	—	4,879	41	5	29,914	967	75,519	*171*
Nagpur and Chateesghur	—	11,250	11,250	1,679	—	—	—	—	—	707	—	—	8,502	320	62	*20*
Tirhoot	145,169	200,214	345,383	760	1,448	69,311	168,705	11,098	—	16,851	28,365	—	30,007	1,756	17,363	*281*
Rangoon and Irrawaddy Valley	179,530	447,793	627,323	2,894	12,720	105,052	262,706	44,381	—	17,635	28,618	—	47,928	1,787	104,614	*512*
Rangoon and Sittang Valley	—	9,406	9,406	965	—	—	—	—	—	615	—	—	7,447	330	50	*1*
Moradabad, Deobund, and Roorkee	—	2,852	2,852	52	—	—	—	—	—	34	—	—	2,616	150	—	—
Kosi Extension	—	3,507	3,507	241	—	—	—	—	—	46	—	—	3,104	116	—	—
Assam Extension	—	4,246	4,246	309	—	—	—	—	—	178	—	—	3,536	135	94	*6*
Hathras and Muthra Section, Light Provincial Railway.	—	96,927	96,927	93	930	3,480	52,854	12,194	—	627	14,020	—	7,000	175	5,504	*10*
Hathras and Kasganj, ditto, ditto	—	61	61	61	—	—	—	—	—	—	—	—	—	—	—	—
Cawnpore and Furruckabad, ditto, ditto	—	1,061	1,061	1,061	—	—	—	—	—	—	—	—	—	—	—	—
Native States.																
Nizam's	145,217	1,010,746	1,155,963	1,057	—	401,121	471,329	108,014	—	16,260	9,163	—	112,792	4,848	35,446	*4,067*
Khamgaum Branch	—	48,530	48,530	37	39	10,921	29,323	4,638	125	343	32	—	2,838	234	—	—
Oomraotee Branch	13,316	30,418	43,734	112	245	9,418	25,259	4,344	110	302	15	—	3,806	123	—	—
Mysore	—	11,624	11,624	550	—	—	—	—	—	831	—	—	9,994	249	—	—
Total	3,627,593	10,911,956	14,539,549	177,122	236,258	4,546,685	3,712,059	806,870	9,022	398,980	885,659	12,080	1,798,496	111,987	1,870,999	*26,668*

* This amount was paid to the Oude and Rohilkund Railway Company for purchase of the Line.

Note.—The total expenditure in England on State Railways to 31st October 1876 amounted to 4,090,841*l*. The above figures represent only that portion of such expenditure which had been appropriated in India to the several undertakings to the date of the last advices received.

India Office, 30th June 1877.

T. W. Keith,
Accountant.

STATEMENT No. 2.

Showing the AMOUNT of CAPITAL authorized to be raised for each Undertaking as now sanctioned, the Amount raised, and the Amount withdrawn, to 31st March 1877.

Railway.	Amount authorized to be raised on 31st March 1877.					Amount raised in England to 31st March 1877.					Amount raised in India to Date of last Advices.		Total Amount raised to 31st March 1877.	Total Amount withdrawn to 31st March 1877 (partly estimated).
	Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	Total.	Share Capital.	Debentures.	Debenture Stock.		Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.		
								Stock represented.	Cash received.					
	£	£	£	£	£	£	£	£	£	£	£	£	£	£
East Indian—Main Line - -	22,992,960	2,719,850	1,500,000	170,488	27,383,298	22,615,804	2,719,850	*1,500,000*	1,500,000	169,150	326,325	1,338	27,332,467	27,208,206
,, Jubbulpore Line -	3,200,000	—	—	43,249	3,243,249	3,189,350	—	—	—	43,249	7,665	—	3,240,264	3,400,485
Great Indian Peninsula - -	20,000,000	268,800	3,065,300	229,602	23,563,702	19,424,815	268,800	*2,701,450*	2,475,559	228,860	495,563	742	22,894,339	22,798,608
Madras - - -	10,264,100	—	—	9,898	10,273,998	10,247,671	—	—	—	9,898	—	—	10,257,569	10,103,795
Bombay, Baroda, and Central India	7,550,300	200,000	—	35,387	7,785,687	7,528,628	200,000	—	—	35,387	21,672	—	7,785,687	7,846,380
Scinde, Punjab, and Delhi - -	11,418,900	—	—	4,403	11,423,303	10,988,984	—	—	—	4,336	86,253	67	11,079,640	10,561,045
Eastern Bengal - - -	2,255,520	462,350	411,308	2,288	3,131,466	2,238,996	462,350	*411,308*	374,730	2,288	16,486	—	3,094,850	3,093,969
Oude and Rohilkund - -	4,000,000	1,115,300	384,700	3,352	5,503,352	3,575,581	1,115,300	*384,700*	354,589	3,352	424,419	—	5,473,241	5,493,595
South Indian - - -	3,213,559	400,000	425,000	63,596	4,102,155	3,184,688	—	*425,000*	425,000	63,541	1,221	55	3,674,505	3,766,182
Total - -	84,895,339	5,166,300	5,786,308	562,263	96,410.210	82,994,517	4,766,300	*5,422,458*	5,129,878	560,061	1,379,604	2,202	94,832,562	94,272,265

India Office, 12th April 1877.

T. W. KEITH,
Accountant.

STATEMENT No. 3.

SHOWING the AMOUNT received from and withdrawn by each Company during the Year ended 31st March 1877.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1876.	Sums advanced to the Companies on the 31st March 1876.	Amount received						Amount withdrawn					Total received during the Year ended 31st March 1877.	Total withdrawn during the Year ended 31st March 1877.
			In England, between 1st April 1876 and 31st March 1877.				In India, between 1st April 1876 and the Date to which Accounts have been received.		In England, between 1st April 1876 and 31st March 1877.		In India.				
			Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.	On account of Stores, Establishment Charges, &c.	For Discharge of Debentures.	Date to which Accounts have been received.	Amount.	Estimated Withdrawals between Dates specified and 31st March 1877.		
	£	£	£	£	£	£	£	£	£	£		£	£	£	£
East Indian, Main Line.	190,869	—	47,755	—	—	7,061	—	—	262,695	54,720	31st December 1876	*85,991**	*110,000†*	54,816	121,424
East Indian, Jubbulpore Line.	—	173,586	—	—	—	—	—	—	—	—	,,	*8,365**	*5,000†*	—	*13,365*
Great Indian Peninsula.	688,160	—	360,690	—	—	—	90,516	—	373,826	1,035,450	,,	*100,641**	*263,000†*	451,206	1,048,635
Madras - -	221,899	—	3,170	—	—	—	—	—	101,084	38,300	,,	*8,089**	*60,000†*	3,170	71,295
Bombay, Baroda, and Central India.	104,361	—	—	—	—	—	—	—	91,819	45,300	,,	37,935	*10,000†*	—	165,054
Scinde, Punjab, and Delhi.	564,683	—	—	—	—	—	—	—	69,660	—	31st October 1876	6,428	*30,000†*	—	46,088
Eastern Bengal -	—	392,963	—	436,800	—	—	—	—	14,919	27,100	31st December 1876	13,937	*13,000†*	436,800	42,956
Oude and Rohilkund	185,060	—	—	—	—	—	—	—	157,133	—	,,	38,281	10,000	—	205,414
South Indian -	291,357	—	15,000	—	—	—	—	—	151,706	—	,,	206,328	40,000	15,000	398,034
Total -	2,246,389	566,549	426,615	436,800	—	7,061	90,516	—	1,222,842	1,200,870	—	99,823	*443,000†*	960,992	2,080,535

* Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amounts withdrawn in India on Capital Account during the year.

† It is estimated that, on receipt of advices from India regarding transfers, which are several months in arrear of advices of cash transactions, transfers of expenditure to Revenue Account, &c., will have exceeded withdrawals to this extent.

India Office, 12th April 1877.

T. W. KEITH,
Accountant.

STATEMENT of WITHDRAWALS out of CAPITAL for EXPENDITURE; showing the Amount withdrawn in England and in India by all the Guaranteed Indian Railway Companies during each Financial Year from the commencement to 31st March 1877.

Year.	England.	India.	Total.
	£	£	£
1849–50	69,211	6,682	75,893
1850–51	61,164	38,099	99,263
1851–52	154,212	197,111	351,323
1852–53	174,920	252,640	427,560
1853–54	252,484	418,165	670,649
1854–55	960,878	769,278	1,730,156
1855–56	1,935,074	1,431,337	3,366,411
1856–57	1,752,813	1,762,287	3,515,100
1857–58	1,328,243	2,094,825	3,423,068
1858–59	1,941,033	3,551,075	5,492,108
1859–60	2,508,668	4,662,796	7,171,464
1860–61	2,388,315	5,190,400	7,578,715
1861–62	1,597,430	5,004,782	6,602,212
1862–63	1,852,393	4,010,951	5,863,344
1863–64	1,415,146	3,340,507	4,755,653
1864–65	1,396,821	2,725,419	4,122,240
1865–66	2,222,679	3,414,187	5,636,866
1866–67	3,958,357	3,339,346	7,297,703
1867–68	3,924,490	3,195,591	7,120,081
1868–69	1,969,814	2,512,084	4,481,898
1869–70	2,298,680	2,444,171	4,742,851
1870–71	1,899,054	1,877,216	3,776,270
1871–72	886,996	1,609,732	2,496,728
1872–73	822,995	*345,750*†	477,245
1873–74	1,028,032	*334,979*†	693,053
1874–75	1,174,893	*86,982*†	1,087,911
1875–76	1,151,585	*200,779*†	950,806
1876–77	1,222,842	*343,177**†	879,665*
	42,349,222	52,537,014	94,886,236
Deduct amount withdrawn by the Calcutta and South-eastern Railway Company, this Railway having subsequently become the property of the State	267,362	346,609	613,971
	42,081,860	52,190,405	94,272,265

* These amounts are partly estimated.

† Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amount withdrawn in India on Capital Account.

Note.—The total expenditure in India in each year as shown in the above Statement will not be found to coincide with that shown in the Indian Finance and Revenue Accounts, owing to the fact that the transfers of expenditure to Revenue Account can only be made in the books in this country on receipt of advices from India, and are consequently brought to account some months later than in the Indian books.

India Office,
12th April 1877.

T. W. KEITH,
Accountant.

STATE of DEBENTURE LOANS on the 31st March 1877.

Railway.	Amount.		Rate of Interest	Date at which Loan expires.
	£	£		
East Indian - - -	96,400		4½	10th August 1877.
" - - -	183,450		4½	" "
" - - -	1,000,000		4¼	22d August 1877.
" - - -	440,000		4	19th March 1878.
" - - -	1,000,000		4¼	1st January 1881.
		2,719,850		
Great Indian Peninsula - -	268,800		4	30th June 1878.
		268,800		
Bombay, Baroda, and Central India	200,000		4	1st January 1882.
		200,000		
Eastern Bengal - - -	52,650		4	1st November 1884.
" - - -	409,700		4	12th July 1886.
		462,350		
Oude and Rohilkund - -	615,300		4	4th June 1880.
" " - -	500,000		4	1st August 1881.
		1,115,300		
		4,766,300		

Note.—None of the above Debentures are convertible into Share Capital.

India Office,
12th April 1877.

T. W. KEITH,
Accountant.

REVENUE.

57. The net revenue derived from the railways during the year 1876 was 4,564,823*l.*, compared with 3,647,868*l.* of the previous year. The State lines, 935 miles in length, earned 113,401*l.*, and the guaranteed lines, 6,000 miles in extent, earned 4,451,422*l.* According to the account given below, the guaranteed interest advanced during the year 1876 amounted to 4,634,222*l.*, so that there was a difference only of 182,800*l.* between that and the receipts. But inasmuch as certain lines earned surplus profits to the amount of 833,170*l.*, half that sum (after deducting 19,835*l.*, contributed to the Provident Fund of the East Indian Railway) had to be returned to the Companies. In the previous year the difference between receipts and guaranteed interest was 1,073,882*l.*, and the half surplus profits amounted to 173,506*l.* The net amounts chargeable against the revenues of the country for the two years respectively were, in 1875, 1,247,338*l.*, in 1876, 588,467*l.* This is a great improvement, and full of encouragement for the future. During the past year the famine in Southern India caused a large movement of grain from the north-west, which added considerably to the traffic of the East Indian, the Great Indian Peninsula, and the Madras lines, but irrespective of this explanation of part of the increase, there has been a large demand for wheat and seeds for exportation, and the cultivation of land for the purpose of meeting the demand is annually extending. These and other signs of a steady advance, not only in the traffic, but in a prudent and economical management of the railways, enabled Sir John Strachey, in his budget statement on the 15th March, to observe that he regarded "the progress of the railways "as one of the most hopeful and important facts connected with the future of "our finances." The returns relating to the traffic of the present year, which have already been received, justify the expectation that the guaranteed interest advanced by the Government will be covered by the net receipts, even after deducting the share of surplus profits due to the Companies.

58. A difference will be observed between the amount given above and that stated in the Annual Revenue (Home) Accounts, as the deficit payable out of the revenues of India for the guaranteed interest. This is explained by the difference in the time which makes up the year in each case. The *official* year ends with the 31st March, the *railway* year on the 31st December. The railway accounts are made up each half year ending the 30th June and the 31st December, and the guaranteed interest is also due on those days. From these last accounts the results above given are derived.

Gross receipts, Guaranteed railways.

59. The gross receipts of the guaranteed lines, for the year, were 8,369,883*l.*, compared with 7,113,898*l.* of the previous year. The expenses were 3,976,296*l.*, compared with 3,537,484*l.*, being 47 per cent., as against 49 per cent. of the receipts.

60. The gross receipts of the State lines amounted to 424,099*l.*, as compared with 298,181*l.*, and the expenses to 310,695*l.*, compared with 226,827*l.*, being 73 per cent. as against 76 per cent. Gross receipts, State lines.

61. The gross receipts from both together were thus 8,793,982*l.* and the working expenses 4,229,156, leaving, as before stated, a net revenue of 4,564,828*l.*

62. The line which has contributed most to these satisfactory results is the East Indian, but others are approaching its position of prosperity and there is ground for hoping that before very long the earnings of most, if not of all, the guaranteed lines will cover the guaranteed interest. East Indian.

63. Taking the capital expended upon these undertakings up to the end of the year at 94,270,000*l.*, the average receipts per cent. per annum would be 4*l.* 14*s.* 5*d.* Average receipts per cent. per annum.

64. Of the above amount,—

	Per Cent. per Annum. £	*s.*	*d.*
27,208,200*l.*, representing the main line of the East Indian, earned	7	6	0
or			
30,608,600*l.*, including the Jubbulpore line, earned	6	9	0
22,800,000*l.*, representing the Great Indian Peninsula, earned	5	3	0
3,094,000*l.*, „ „ Eastern Bengal	5	16	0
7,847,000*l.*, „ „ Bombay, Baroda, and Central Indian*	3	11	0
5,450,000*l.*, representing the Oude and Rohilkund, earned	2	9	0
3,766,100*l.*, „ „ South Indian†	2	7	0
10,104,000*l.*, „ „ Madras	2	6	0
10,560,000*l.*, „ „ Scinde, Punjab, and Delhi‡	2	5	0

65. Surplus profits were earned to the amount of 833,170*l.* viz. :— Surplus profit.

	£
By the East Indian (in both half years)	651,664
The Great Indian Peninsula (in the first half year)	125,816
The Bombay, Baroda, and Central India (in the first half year)	20,343
The Eastern Bengal (in the second half year)	35,347

Half of these amounts was retained by the Government.

66. I may here mention that the financial results of some of the recent branches of the Bombay and Baroda Railway have been very satisfactory, the receipts having more than covered the guaranteed interest on the capital. Mr. Wood, the Auditor of that Company in India, after analyzing the figures of the separate accounts of the Main line and branches of that railway, shows that the Main line to Saburmuttee earned 3·68 per cent., the Wudwan extension earned 5·14, and the Dakor branch 6·23 per cent. per annum, aptly observing that, "while this "comparison shows that low first cost is essential to the financial success of "branch lines in this country, the results realized in the case of our own lateral "extensions prove that carefully selected and economically constructed branch "lines, in good agricultural districts, not only stimulate the trading and produc- "tive energies of the people, who are, by their introduction, placed in easier "communication with larger markets and centres of commerce, but that, with "good management, they may directly benefit the State and the proprietors of "the main undertaking." Branch lines of Bombay and Baroda Railway.

67. The Revenue Statement, giving the particulars of the receipts and expenses of each railway for the year, will be found on pp. 24, 25. This statement gives the actual amount of revenue yielded by the railways, after all adjustments have been made with the concurrence of Government. If the results differ from those in the Traffic Statements (from p. 38 to p. 43), it is because there may be some claim which, outstanding perhaps from former years, had to be settled. In the case of the Great Indian Peninsula Railway, for instance, the expenditure from the half year's revenue was reduced by contributions to the extent of 88,884*l.* from funds raised from the receipts of previous years, and in the case of the Eastern Bengal, the earnings, 31,000*l.*, from the *steamers* used by the Company are not included in the *railway* returns. Statements and Tables.

* The earnings of the Bombay, Baroda, and Central India Railway would also have been larger, but for an outlay of *l.* from Revenue for repairs to the Nerbudda Bridge.

† With regard to the South Indian, it should be remarked that a great portion of the line has only just been opened, and also that a loss of 18,441*l.* was incurred, and charged to Revenue, by the sale of broad gauge rolling stock, which they no longer required, on account of the adoption of the metre gauge for their line.

‡ The earnings of this line would have been better by 26,000*l.*, but for the exceptional charges to revenue, on account of the expenditure on the bridges for protective works.

STATEMENT showing the REVENUE from the INDIAN RAILWAYS in 1875 and 1876, as given in the Accounts passed by Government.

Railway.		Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
		Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
GUARANTEED.		£	£	£	£	£	£	£		£
East Indian, Main Line	1876	851,089	2,058,301	100,794	3,010,184	286,553	738,383	1,024,936	34	1,985,248
	1875	*801,311*	*1,622,681*	*85,671*	*2,509,663*	*226,435*	*736,619*	*963,054*	*38*	*1,546,609*
,, Jabalpur Line	1876	91,613	128,334	25,222	245,169	39,772	80,266	120,038	49	125,131
	1875	*77,300*	*92,198*	*15,550*	*185,048*	*38,654*	*68,672*	*107,326*	*58*	*77,722*
Great Indian Peninsula	1876	483,374	1,686,786	66,020	2,236,171	*167,855	889,710	*1,057,565	47	1,178,606
	1875	*478,530*	*1,457,666*	*36,888*	*1,973,084*	*158,742*	*774,044*	*932,786*	*47*	*1,040,298*
Madras	1876	237,370	393,904	20,821	652,095	125,959	293,854	419,813	64	232,282
	1875	*226,049*	*344,523*	*18,820*	*589,392*	*152,016*	*262,188*	*414,204*	*70*	*175,188*
Bombay, Baroda, and Central India	1876	214,530	386,610	19,654	620,794	114,813	230,329	340,227	55	280,567
	1875	*228,348*	*343,382*	*13,724*	*585,454*	*81,378*	*237,165*	*318,543*	*54*	*266,911*
Sind, Punjab, and Delhi	1876	225,745	342,012	163,124	730,881	131,325	361,966	493,291	67	237,590
	1875	*221,458*	*269,824*	*20,653*	*511,935*	*79,060*	*248,996*	*328,056*	*64*	*183,979*
South Indian	1876	113,402	68,821	8,562	190,785	7,111	94,522	101,633	53	89,152
	1875	*54,228*	*44,393*	*4,732*	*103,353*	*7,695*	*42,076*	*49,774*	*48*	*53,579*
Eastern Bengal	1876	108,542	181,067	44,053	*333,662*	*32,437*	*121,714*	*154,151*	*46*	*179,511*
	1875	*110,298*	*146,472*	*39,048*	*295,818*	*54,657*	*135,424*	*190,081*	*64*	*105,737*
Oude and Rohilkhund	1876	156,851	164,091	20,199	341,142	41,255	165,552	206,807	49	134,335
	1875	*137,585*	*130,602*	*6,985*	*275,122*	*33,015*	*131,258*	*164,273*	*59*	*110,849*
Totals for Guaranteed Railways	1876	2,482,516	5,409,926	468,449	8,369,883	847,080	2,976,296	3,918,461	47	4,451,422
	1875	*2,340,994*	*4,530,266*	*242,638*	*7,113,898*	*845,054*	*2,692,430*	*3,537,484*	*49*	*3,576,514*

* Exclusive of 90,207*l.* charged to Special Funds.

Railway.		Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
		Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
STATE LINES.		£	£	£	£	£	£	£		£
Calcutta and South-eastern	1876	6,937	*2,715	182	9,834	3,352	7,331	10,683	108	Loss 849
	1875	*6,354*	*2,854*	*1,157*	*10,365*	*2,014*	*6,329*	*8,343*	*80*	*2,022*
Nalhati	1876	4,790	*2,603	126	7,519	3,770	4,488	8,358	111	Loss 839
	1875	*5,324*	*2,566*	*52*	*7,942*	*1,811*	*4,327*	*6,138*	*77*	*1,804*
Rajputana	1876	84,107	148,301	4,150	236,558	43,004	109,316	152,320	64	84,238
	1875	*61,730*	*108,378*	*4,620*	*174,728*	*33,180*	*78,066*	*111,246*	*63*	*63,482*
Wardha Valley	six months 1876	319	1,587	8	1,914	568	1,707	2,275	119	Loss 361
	- - - *1875*	*395*	*2,240*	*39*	*2,674*	*697*	*2,170*	*2,867*	*107*	*Loss 193*
Holkar's	1876	10,809	23,463	3,567	37,839	5,910	29,355	35,265	93	2,574
	1875	*7,829*	*23,513*	*603*	*31,945*	*3,234*	*27,352*	*30,586*	*95*	*1,359*
Nizam's	1876	23,217	29,979	128	53,324	12,669	33,042	45,711	86	7,612
	1875	*25,136*	*20,204*	*174*	*45,514*	*16,132*	*35,709*	*51,841*	*113*	*Loss 6,327*
Punjab, Northern	1876	25,662	21,336	585	47,583	11,583	24,106	35,689	75	11,894
	1875	*9,704*	*4,364*	*208*	*14,276*	*1,992*	*6,066*	*8,058*	*56*	*6,218*
Tirhut	1876	5,115	6,917	†5,910	17,942	2,883	9,437	12,320	67	5,622
	1875	*686*	*783*	*9*	*1,478*	*306*	*581*	*1,087*	*73*	*391*
Berar — Amraoti	1876	712	5,601	57	6,370	283	4,196	4,479	70	1,890
	1875	*740*	*4,670*	*16*	*5,426*	*320*	*3,808*	*4,128*	*76*	*1,298*
Berar — Khamgaon	six months 1876	135	2,810	14	2,959	254	1,888	2,142	72	816
	- - *1875*	*151*	*3,671*	*11*	*3,833*	*280*	*2,253*	*2,533*	*66*	*1,300*
Neemuch	1876	2,251	—	6	2,257	—	—	1,453	64	804
Totals for State Railways	1876	164,054	245,312	14,783	424,099	84,276	224,966	310,695	73	113,401
	1875	*118,049*	*173,243*	*6,859*	*298,181*	*60,166*	*166,661*	*226,827*	*76*	*71,354*
Grand Total for all Railways	1876	2,646,570	5,655,238	483,232	8,793,982	931,356	3,201,262	4,229,156	48	4,564,823
	1875	*2,459,043*	*4,703,509*	*249,527*	*7,412,079*	*905,220*	*2,859,091*	*3,764,311*	*50*	*3,647,868*

* Includes goods miscellaneous earnings.

† Includes 5,522*l.* receipts from construction on account of hire of locomotives and vehicles.

GUARANTEED INTEREST.

68. The following tables relate to the advances made by Government on account of the guaranteed interest. It will be seen that a sum of 4,634,222*l.* was paid during the year ending the 31st December last, and that up to that date the total amount advanced was 61,558,745*l.* By the table which follows, it will be observed that of this 61,558,745*l.*, 34,724,213*l.* had been recovered from the Companies, leaving 26,834,532*l.*, with simple interest at 5 per cent. per annum, to be paid back out of the half surplus profits of the future.

69. It will also be seen that, although up to the 30th June 1876 a sum of 23,191,094*l.* has been paid from time to time to the East Indian Railway on account of guaranteed interest, the aggregate net receipts from that time have reduced the amount to 5,258,456*l.*, while out of 14,724,534*l.* paid to the Great Indian Peninsula, 6,480,493*l.* remains as the net amount advanced, and out of 6,376,669*l.* paid to the Scinde, Punjab, and Delhi, a sum of 5,256,237*l.* remains.

70. The amount which has been contributed by the surplus profits towards the discharge of the guaranteed interest is 1,491,969*l.*, being half the sum of 3,030,167*l.*, less 46,229*l.* paid out of the surplus profits of the East Indian Railway to the Provident Fund, which represents the whole amount realized up to 31st December last by the excess profits over and above the guaranteed interest. Of this latter sum, 4,273,573*l.* was contributed by the East Indian.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

STATEMENT of the Total Amount of INTEREST advanced to each of the under-mentioned Railway Companies to the 31st December 1876.

Railway Company.	Interest advanced to 31st December 1875.	Interest advanced during 1876.			Total.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian, Main Line	19,848,686 7 5	1,298,131 17 3	9,330 3 2	1,307 0 5	21,156,148 7 10
„ Jubbulpore Line	1,875,094 15 9	159,467 10 0	383 5 0	159,850 15 0	2,034,945 10 9
Great Indian Peninsula	13,580,493 5 4	1,134,383 1 0	9,658 1 0	1,144,041 2 0	14,724,534 7 4
Madras	6,879,575 18 2	512,480 13 11	—	512,480 13 11	7,392,056 12 1
Bombay, Baroda, and Central India	4,694,686 9 1	387,559 19 0	217 16 3	387,777 15 3	5,082,464 4 4
Scinde, Punjab, & Delhi	5,822,871 0 0	551,298 10 0	2,499 6 5	553,797 16 5	6,376,668 16 5
Eastern Bengal	1,608,544 8 5	130,830 3 4	919 14 9	131,749 18 1	1,740,294 6 6
Oude and Rohilkund	1,255,088 0 9	256,805 15 0	3,194 5 0	260,000 0 0	1,515,088 0 9
South Indian	1,359,482 3 3	177,062 9 6	—	177,062 9 6	1,536,544 12 9
Total	£56,924,522 8 2	4,608,019 19 0	26,202 11 7	4,634,222 10 7	61,558,744 18 9

India Office, 12th April 1877.

T. W. KEITH, Accountant.

A STATEMENT showing approximately the Amounts advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to the 30th June 1876, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total Amount advanced to 31st December 1876.*	Aggregate of Net Revenue Balances for the several half-years to 30th June 1876, inclusive.	Net Amount advanced.
	£	£	£
East Indian, Main Line - -	21,156,148	17,390,025	3,766,123
„ Jubbulpore Line - -	2,034,946	542,613	1,492,333
Great Indian Peninsula - -	14,724,534	8,244,041	6,483,493
Madras - - - -	7,392,057	3,190,984	4,201,073
Bombay, Baroda, and Central India -	5,082,464	2,284,957	2,797,507
Scinde, Punjab, and Delhi - -	6,376,669	1,120,432	5,256,237
Eastern Bengal - -	1,740,294	1,205,535	534,759
Oude and Rohilkund - - -	1,515,088	279,943	1,235,145
South Indian - - - -	1,536,545	465,683	1,070,862
Total - -	£ 61,558,745	34,724,213	26,834,532

* The Interest for the half-year to 30th June 1876 not being paid until the succeeding half-year.

India Office, 12th April 1877. T. W. KEITH, Accountant.

STATEMENT showing the Amount of SURPLUS PROFITS earned by Guaranteed Railways to 31st December 1876 inclusive.

Company.	To end of 1872.	Half year to 30th June 1873.	Half year to 31st Dec. 1873.	Half year to 30th June 1874.	Half year to 31st Dec. 1874.	Half year to 30th June 1875.	Half year to 31st Dec. 1875.	Half year to 30th June 1876.	Half year to 30th Dec. 1876.	Total.
	£	£	£	£	£	£	£	£	£	£
East Indian Railway, Main Line	741,008	167,753	104,688	641,832	77,951	158,539	38,702	352,531	299,133	2,582,137
„ Jubbulpore Line	—	—	—	11,238	—	—	—	—	—	11,238
Great Indian Peninsula Railway	69,555	—	—	—	—	143,838	—	125,816	—	339,209
Bombay, Baroda, and Central India	5,864	—	—	4,723	—	5,934	—	20,343	—	36,864
Eastern Bengal -	—	—	8,411	7,810	9,151	—	—	—	35,347	60,719
Total -	816,427	167,753	113,099	665,603	87,102	308,311	38,702	498,690	334,480	3,030,167

T. W. KEITH, Accountant.

India Office, 13th June 1877.

71. The low rate of exchange for bills on India which has lately prevailed has drawn more particular attention to the losses which are incurred by Government, in consequence of the fixed rates in the contracts with the several Companies for transactions in this country. It will be seen by the subjoined statements that the Government has sometimes, and for some transactions, lost, and at others gained. On the whole they have lost considerably, for it unfortunately happened that when the advances in sterling for the supply of materials for construction purposes were large, the rate of exchange was high, and when the receipts of the railways in rupees were large, and had to be converted into sterling, the rate of exchange became low. The rate which was fixed in the contracts with the principal Companies was 1*s.* 10*d.*; but in one instance it is 1*s.* 11*d.*, and in another 2*s.* the rupee. The net loss up to the end of the year 1875–76 was 1,454,867*l.*

STATEMENT showing the Loss or GAIN to India in each Year, by adopting in the Transactions with the Guaranteed Railway Companies the rates of Exchange specified in the several Contracts, as compared with the average rate obtained in each Year for Bills of Exchange drawn on India.

Year.	Average Rate for Bills on India.	Loss by Exchange in adopting the Rate of 1s. 10d. the Rupee.	Gain by Exchange in adopting the Rate of 1s. 10d. the Rupee.	Gain by Exchange in adopting the Rate of 1s. 11d. the Rupee.*	Gain by Exchange in adopting the Rate of 2s. the Rupee.†	Loss by Exchange in adopting the Rate of 2s. the Rupee.
	s. d.	£	£	£	£	£
1849–50	1 10 3/8	—	195	—	—	—
1850–51	2 0 1/4	—	4,076	—	—	—
1851–52	2 0 1/8	13,909	—	—	—	—
1852–53	1 11 7/8	20,456	—	—	—	—
1853–54	2 0 3/8	39,485	—	—	—	—
1854–55	1 11 5/8	33,663	—	—	—	—
1855–56	2 0 5/8	118,734	—	—	—	—
1856–57	2 1 1/2	230,251	—	—	—	—
1857–58	2 0 5/8	232,656	—	—	—	—
1858–59	‡	—	—	—	—	—
1859–60	‡	—	—	—	—	—
1860–61	‡	—	—	—	—	—
1861–62	1 11 7/8	393,865	—	—	—	—
1862–63	1 11 7/8	297,923	—	—	—	—
1863–64	1 11 7/8	226,489	—	—	—	—
1864–65	1 11 7/8	136,920	—	—	—	—
1865–66	1 11 3/4	44,193	—	—	—	—
1866–67	1 11	55,840	—	—	—	—
1867–68	1 11 1/8	57,305	—	—	674	—
1868–69	1 11 1/8	11,669	—	—	2,647	—
1869–70	1 11 1/4	—	25,019	—	6,878	—
1870–71	1 10 1/2	—	32,966	—	21,252	—
1871–72	1 11 3/8	—	144,151	—	14,499	—
1872–73	1 10 3/4	—	107,492	—	31,771	—
1873–74	1 10 3/8	—	62,529	—	26,284	—
1874–75	1 10 1/4	—	21,777	5,537	10,149	—
1875–76	1 9 5/8	68,596	—	10,161	—	970
Total -	—	1,981,954	398,205	15,698	114,154	970

* Adopted in the case of the South Indian Railway Company, which was formed in the year 1874–75 by the amalgamation of the Great Southern of India and Carnatic Railway Companies.

† Adopted in the case of the Oude and Rohilkund Railway Company, and until 1873–74 inclusive, in that of the Carnatic Railway Company.

‡ Up to the year 1860–61 inclusive the Home Treasury was open at all times for the sale of bills on India, at rates altered from time to time by advertisement. Consequent on the mutiny it was necessary to refain from drawing on India, and the exchange was raised to a prohibitory rate.

THOS. W. KEITH, Accountant.

India Office, 22nd June 1877.

TRAFFIC.

72. There has been considerable improvement in the traffic during the year, and although some of it is due to the movement of grain from the North-West Provinces to the famine stricken districts of Southern India, there are clear indications that a growth of a healthy kind has commenced, and is likely to continue. The increase has taken place principally in the staple commodities of the country, such as seeds, grain, salt, coal, sugar, and jute. Cotton is almost the only article that has not been carried to the same extent as in the previous year. The most remarkable feature in the traffic returns is the large increase under the heads of grain and seeds. Five years ago, the quantities of these articles carried on all the railways then open were 7,460,340 cwt. and 2,672,640 cwt. respectively, or 10,132,980 cwt. together; last year the amounts were 25,640,720 cwt. and 11,862,260 cwt., or a total of 37,502,980 cwt.

Traffic in grain and seeds.

73. It is hardly necessary to observe that these figures represent the aggregate amount of the traffic on all the railways put together, and not the quantity carried over each mile of railway. But the stimulus which has been given to the grain and seed trade between India and this country may be seen in the fact that, while in the twelve months ending with March 1871 the wheat exported from India to the United Kingdom was 248,522 cwt., and the oil seeds 1,384,023 cwt., in the twelve months ending last March the exports of wheat to this country were 4,337,208 cwt., and of oil seeds 3,740,362 cwt. The exports of wheat from

Calcutta alone during the year were 3,404,800 cwt., of which more than half was brought down by the railway.

74. Another important feature, as showing how the wants of the mass of the people may be met by means of railways, is the increase in the salt traffic. In 1871, the amount of salt carried by the railways was 225,572 tons; in 1876 it was 536,837 tons.

75. Largely as the traffic has increased, it might have been still greater if more rolling stock had been available. The want of locomotives and wagons has been a great check, and I am afraid that goods have, in consequence, sometimes, been damaged by delay and exposure. The Agent of the Oudh and Rohilkund Railway recently observed that three times the amount of traffic might have been taken on that line if they had possessed the means of carrying it. On other lines it has been more or less the same. The stations in the Punjab and Delhi, and on the East Indian and Great Indian Peninsula, have frequently been blocked with grain and other goods, because the means of carrying them away failed. At Patna and Benares a steamboat service came to the aid of the East Indian Railway, and took some of the grain to the Kooshtea station of the Eastern Bengal Railway, and to Calcutta.

76. Of the State lines, the Rajpootana is at present the most important, but the Punjab Northern promises well. Both are in their infancy. The net profits of the Rajpootana have improved from 58,862*l.* in 1875, to 84,238*l.* in 1876. The total amount of goods carried was much the same, viz., 162,000 tons, but the receipts increased by 40,000*l.* The passengers in 1875 numbered 998,853; last year they were 1,295,597, and yielded 84,000*l.*, as compared with 61,730*l.* It must be remembered that these results relate to the first whole year during which the line has been worked since its completion. It cannot but be regarded as satisfactory that it should have yielded nearly 3½ per cent. per annum on an outlay of 2,500,000*l.* The Punjab Northern, also, has done well for its first year, both in passengers and goods. The number of the former carried was 701,477, and the weight of the latter 100,960 tons; the receipts from each being 25,662*l.* and 21,336*l.* Rajpootana line.

77. Some of the smaller State lines, such as the Oomrawuttee, Kamgaum, and Patri, also the Nizam's, are worked by the guarantee Companies, under arrangements by which the Companies do not derive direct pecuniary gain, but receive the benefit of the traffic brought to their lines.

78. The general results of last year's working show that the gross weight of goods carried was (including 72,514 tons by the Indus Flotilla) 5,871,690 tons, and the amount received for the conveyance of the same was 5,783,978*l.* During the previous year these amounts were respectively 4,388,650 and 4,698,506*l.*, showing an increase of 1,483,040 tons in weight and 1,085,472*l.* in money. The East Indian main line alone exhibits an increase of 363,000 tons, or 35 per cent., and of 435,622*l.*, or 26·9 per cent., over the previous year; the expenditure being 61,880*l.* more. The Jubbulpore line, an increase of 74,480 tons and 36,000*l.* and 13,000*l.* in expenses. The Great Indian Peninsula shows also an increase of 233,300 in tonnage and 221,096*l.* in receipts, the expenditure being 125,000*l.* greater than in the year 1875. The gross earnings from the conveyance on the Bombay, Baroda, and Central India Railway of 50,461 tons in excess of the previous year were 25,519*l.* more. The Eastern Bengal yielded an addition of 35,000*l.*, the weight conveyed showing an increase of 60,000 tons. On the Madras also the goods exceeded those of the year 1875 by 200,000 tons, the receipts therefrom being 390,000*l.*, compared with 343,000*l.* General results for the year. East Indian. Great Indian Peninsula. Bombay, Baroda, and Central India Railway. Eastern Bengal. Madras.

79. The famine in Southern India, where the area affected by the want of rain extends over 54,000 square miles, with a population of 8,000,000, has produced a very large grain traffic on the lines immediately connected with those districts, as well as on the East Indian and even the Punjab and Delhi. The railways in Madras were the means of conveying 310,957 tons of grain up to the end of March. Of this 146,254 tons were sent from Madras, and 35,000 were despatched in March alone. The locomotive power and stock at the command of the railway authorities were unfortunately inadequate. They had to borrow from other lines, and to indent on England for more. Effects of famine on traffic.

80. I have no hesitation in saying that the recent development which has occurred in the merchandise traffic is due, in a great measure, to the more liberal scale of charges which has lately been adopted. Other causes, especially the famine, have contributed to produce this effect, but the chief one is the reduction in the Effects of lower rates.

rates for carriage. The policy of moderately low rates for the staples of the country may, I am glad to say, now be regarded as one which has been generally accepted by the Companies, and its encouraging results will probably lead to its further extension. The greater the traffic, the more the rates may, within moderation, be safely lowered; for by good management, with a large traffic, full train loads may be secured, and waste of carrying power will be avoided. The railway can then afford to carry at cheaper rates. Thus one reacts upon the other. Low rates produce traffic and a large traffic proportionately reduces working expenses and increases profits. The two leading Companies, the East Indian and the Great Indian Peninsula, have acknowledged in their reports to the shareholders the success of their policy in lowering rates. The East Indian say, "it is this reduction of rates which has conduced so much to the late "development of traffic." The Great Indian Peninsula also observe "that the "modifications of rates and charges which have been adopted are operating "beneficially in aiding the development of the traffic."* The Scinde, Punjab, and Delhi Directors likewise congratulate themselves on the effect of lower rates upon their traffic; and the Agent of the Oudh and Rohilkund Company, when alluding to the changes made in the tariff for goods, by which considerable relief was given to the customer, observes that the results obtained "seem to indicate "that the change was required and has been appreciated."

81. We have seen the effect of the judicious reduction of rates on the traffic of one important article of consumption and of exportation, viz., wheat. There is another worthy of notice. On the Eastern Bengal Railway the rate for the carriage of salt was reduced to the extent of from 25 to 33 per cent., according to the distance it was conveyed. The traffic during the year preceding the reduction amounted to 70,524 maunds. The traffic for one year under the new rates has been 422,976, or an increase of 600 per cent. Sir John Strachey has a strong belief that a very large proportion of the population of India do not obtain that full supply of salt which they would take if they could get it. The impediment to increased consumption is the price at which it can be obtained, and there can be no doubt that the charge for conveyance on most of that which is consumed has, on account of the distance which it has to be conveyed, more to do with the price than the cost of production and the duty. The above confirms the correctness of Sir John Strachey's opinion. On the Rajpootana State line, however, from which there is a branch to Sambhur Salt Lake, the salt rates are twice as high as on the East Indian, and $2\frac{1}{2}$ times higher than on the Oudh and Rohilkund.

82. There is one more example of the results of a liberal policy worth noticing. On the Oudh and Rohilkund line the classification of goods was revised, 255 items being transferred to classes where the charge was lower, and 107 items, consisting of valuable articles involving extra care and risk, to where the charge was increased. Terminal charges of two pies per maund were also abolished on all goods carried upwards of 60 miles, so that the public were benefited to a considerable extent in the aggregate. The result justified the changes. The amount of goods carried increased from 170,835 to 260,462 tons, and the gross receipts from Rs. 7,44,806 to Rs. 9,26,271.

Passengers.

83. The passenger traffic has not shown the same degree of development, or given the same indication of expansion as the goods. If it had not been for the visit of His Royal Highness the Prince of Wales in 1875–76, and for the Delhi assemblage, the preparations for which commenced towards the end of the year, the last two years would not have shown much increase per mile open. Trials have been made in one or two cases with reduced rates. The effect was to increase numbers, and, where sufficient time has passed to test the trial, to enhance receipts also, but not in the same proportion. Some disappointment has been expressed that the effect has not been more rapid, and a return to higher charges has been advocated as a remedy. I do not expect that a remedy would be found in this course, but rather the reverse. It is, of course, possible to go too low, but, taking into consideration the poverty of the people and the small value they attach to time, that point has not been reached by the two pies ($\frac{1}{4}d.$) per mile rate, which is the lowest charge made. The comparative stagnation which appears to exist shows that some further inducement is required to tempt the mass of the

* These modifications consisted chiefly in removing the special charges (which amounted to three times the usual rates) for carrying goods over the Ghat inclines, and for terminals. This was tantamount to a reduction of about 40,000*l.* in the year's charges on the public.

people to use the railway more. The time has passed for using the argument that Natives do not care for moving about with ease and speed when they have the means and opportunity of doing so.

84. The total number of tickets issued last year to all classes (exclusive of periodical ticket holders) was 30,535,319, for an average mileage open of 6,592 miles, being 4,632 per mile. In the previous year the numbers were 26,779,437 for 6,298 miles, or 4,252 per mile. The receipts were 2,193,509*l.* from passengers in 1876, and in 1875 they were 2,083,932*l.* The receipts per train mile were the same in each year, viz., 5·78*s.* By far the greater bulk of the passengers were the lower classes. On most lines there are four classes, the two lowest being distinguished either as third and fourth, or intermediate and third, the fares being $4\frac{1}{2}$, 3, and sometimes 2 pies. Out of the 30,535,319 who travelled last year, 29,641,237, or 97 per cent., consisted of the lower classes, 685,015, or 2·24 per cent., of the second class, and 209,065, or ·76 per cent. of the first class. The number of holders of season tickets increased from 17,490 to 20,437.

85. The number of miles travelled by trains of all descriptions was 21,609,411, compared with 17,950,312 of the previous year. The passenger train mileage was 3,664,354, compared with 3,908,029; the goods, 10,004,054, compared with 7,161,259; the mineral, 258,309, compared with 210,074; and the mixed goods and passengers, 7,291,940, as against 6,333,465. Train mileage.

86. The ton mileage, *i.e.*, the number of tons carried one mile, was 1,298,219,081, compared with 905,697,217 of 1875. Ton mileage.

87. The expenses of working and maintaining the railways, excluding the Indus Flotilla, amounted to 4,226,966*l.*, compared with 3,739,923*l.* of 1875. While the expenses were increased by 487,043*l.*, the receipts were increased by 1,360,329*l.* The proportion per cent. of expenditure to gross receipts was 47, and in 1875 it was 50·64. On the East Indian it was only 34·05 for the Main line, but 48·96 for the Jubbulpore. On the Great Indian Peninsula it was 47; on the Madras, 64·38; on the Bombay and Baroda, 54·80; on the Scinde, Punjab, and Delhi, 67·35; on the South Indian, 53·37; on the Eastern Bengal, 46·55; on the Oudh and Rohilkund, 63·94; and on the Rajpootana, 64·39. The maintenance and renewals last year came to 1,031,358*l.*, compared with 801,833*l.* of the previous year. The locomotive expenses were 130,742*l.*, and the repairs and renewals of stock 103,819*l.* more than 1875, and the increase in the coaching and merchandise expenses only 6,053*l.* Considering the large addition to the traffic during the year, this is very creditable to the management. On some lines especially there was a marked improvement, and this is the more satisfactory as showing an honest and serious effort to secure an efficient administration and enlarged returns at a diminished cost. Although the East Indian Main line earned 500,000*l.* more than the previous year by the conveyance of passengers and goods, their expenses connected with "coaching and merchandise" was 1,752*l.* less. The departments in which increased expenditure took place were the "maintenance and renewal" and "repairs and renewals of carriages and waggons." The Great Indian Peninsula likewise exhibits an increase of 263,000*l.* in receipts, and a diminution of 10,000*l.* in expenses under "coaching and merchandise." It also shows a considerable improvement in the general cost of doing its work. While in 1875 it took ·662*d.* to carry a ton of goods one mile, it only required ·572*d.* to do the same last year. The East Indian still holds the foremost place as the most economically managed line, and shows that during the year it has made further advances in diminishing expenditure. In 1875 the average cost of carrying a ton of goods one mile was ·324*d.*, in 1876 it was only ·253*d.*, a result which I believe to be unexampled in the records of railway economics. That, in addition to good management, it has natural advantages, is apparent by the fact that, under the same direction, the Jubbulpore branch of 224 miles presents returns of a less favourable kind. The results on the East Indian Main line, as compared with other lines is, in great measure, explained by the high average of the train loads. While the Great Indian Peninsula carried 88 tons in each train, and the Madras 52, the East Indian carried 132·7. The Bombay and Baroda carried 117, but their expenses are high, the cost of carrying a ton one mile being ·575*d.*, or more than twice that of the East Indian. The same remark applies to the Eastern Bengal. Expenditure.

88. The statements at pp. 36 to 43 provide statistical data from which other deductions, besides those already given, may be drawn. The tables, which, as usual, have been prepared by Mr. Rendel, and are given below, contain many interesting and instructive particulars, and enable comparisons of a very useful

kind to be made between the usefulness and profitableness of the different lines.

Fuel.

89. Before leaving the subjects of traffic and working, I should mention that Native coal is becoming more generally used. The East Indian Railway alone carried coal to the amount of 520,262 tons, and received for doing so 245,295*l.* Five years ago these respective amounts were 295,852 and 124,781*l.* A large portion of the increase arises from the supplies for the railways in the North-West, Oudh, and the Punjab. The Wurrora collieries are supplying portions of the Great Indian Peninsula system with coal at Rs. 5 per ton. It is supposed that the whole of the requirements of the Nagpore branch will be met from this source. Coal is also obtained from the Mhopani mines at 9 rupees at the pit's mouth, and from the Bengal collieries delivered at Jubbulpore, at 19 rupees. The average cost of English coal delivered at Bombay last year was 33*s.* An attempt was made to introduce Bengal coal into the Madras Presidency, but the lowest offer to supply it at Madras was at the rate of Rs. 21 a ton; and, as English coal could be obtained at a price below this, viz., Rs. 18, it will be necessary to wait until some arrangement can be made by which the cost of bringing the coal by sea from Calcutta to Madras can be reduced.

Acid in certain wood fuel.

90. The scarcity of wood in Madras is becoming greater every year, and the importance of obtaining a supply of fuel at a moderate cost, therefore, increases. I may here mention that one inconvenient effect of the use of wood fuel has lately been detected, but it would appear to be confined to wood from a particular locality, as no complaints have been made except with that obtained in Scinde. It was found that, in the locomotives running on the railway, the copper fire-box plates rapidly wore out. Specimens of the corroded metal were sent over, as well as several samples of the babool wood which was used. These were carefully analyzed by Dr. Watson, of Manchester, who reported that the rapid destruction of the plates was due to the presence of chloride of sodium (common salt) as one of the mineral constituents of the wood, that effect being increased in proportion to the height of the temperature at which the plates were exposed to the action of the gases. Inquiry is now being made as to the character of the soil and atmosphere where the trees were grown, in order to ascertain whether the saline ingredient in the wood may be traced to these sources.

91. The following Memorandum, which has been prepared by Mr. T. R. Watt, of the Great Indian Peninsula Railway, is interesting, as illustrating not only the value of cheap coal, but the effect upon its consumption of high and low average train loads in working.

92. Taking the weight of each passenger at 1 cwt., and including revenue stores carried free, the following results are obtained as showing the relationship between the quantity and cost of coal consumed per ton of freight carried *for the year* ended 30th June 1876:—

	Great Indian Peninsula Railway.	East Indian Railway.	
		Main Line.	Jubbulpore Line.
(1) Consumption of coal, per ton carried	Lbs. 160	Lbs. 121	Lbs. 114
(2) Tonnage carried, per ton of coal consumed	Tons. 14	Tons. 18½	Tons. 19⅝
(3) Cost of coal consumed, per ton carried	*s. d.* 2 5½	*s. d.* 0 4¼	*s. d.* 1 2⅜
(4) Tonnage carried, per 1*l.* of coal	Tons. 8	Tons. 56	Tons. 16

Precautions against infection.

93. In connection with the comfort and safety of passengers while travelling on the railways, I may mention that, to guard against the spread of epidemic or contagious complaints, so likely to occur in India, and so commonly propagated through the assemblage of a large number of people at the stations and the crowds in the trains, orders have been issued with the view of organizing preventive measures. These chiefly consist of isolating those who may be found infected, and of supplying them with the necessary medical aid, and of using proper disinfectants.

Returns prepared by Mr. Rendel.

The Returns given below are drawn up on the same principle as those given in previous years.

The Punjab and Delhi line is omitted this year, the accounts for this line, separate from those of the Scinde, not being obtainable. But the Oude and Rohilkund is inserted for the first time.

(*a*) PASSENGER TRAFFIC.

	East Indian Railway.		Great Indian Peninsula.	Madras.	Bombay, Baroda, and Central India.	Eastern Bengal.	Oudh and Rohilkund.
	Main.	Jubbulpore.					
Average length open, miles -	No. 1,280	No. 223¼	No. 1,266½	No. 838	No. 412 aver.	No. 158	No. 548
(1.) Receipts from passenger traffic.	£ 851,089	£ 91,613	£ 433,374	£ 237,370	£ 314,530	£ 103,551	£ 156,851
(2.) Passenger train miles run -	No. 2,355,153	No. 249,823	No. 1,514,615	No. 731,976	No. 538,207	No. 240,275	No. 430,238
(3.) Average passenger train mile receipts.	s. d. 7 2¾	s. d. 7 4	s. d. 6 4½	s. d. 6 5¾	s. d. 7 11½	s. d. 9 0¾	s. d. 7 3½
(4.) Number of passengers carried one mile.	No. 533,718,529	No. 53,216,813	No. 308,547,000	No. 153,142,000	No. 143,498,330	No. 69,270,000	No. 156,200,000
(5.) Average sum received for carrying a passenger one mile.	d. ·383	d. ·413	d. ·376	d. ·372	d. ·359	d. ·376	d. ·241
(6.) Average number of passengers in a train at any one time.	No. 227	No. 213	No. 204	No. 209	No. 266·5	No. 288	No. 363
(7.) Average number of passenger trains per diem *each* way, supposing each train to traverse the whole line open.	No. 2·52	No. 1·53	No. 1·64	No. 1·17	No. 1·79	No. 2·08	No. 1·075
(8.) Average number of passengers passing over each mile of line daily (both ways).	No. 1,142	No. 651	No. 668	No. 490	No. 954	No. 1,501	No. 781
(9.) Total working expenses for both goods and passengers, deducting telegraph special and miscellaneous and demurrage receipts from them.	£ 922,402	£ 94,734	£ 1,073,320	£ 398,291	£ 319,857	£ 126,448	£ 186,150
(10.) Average cost of running a train mile, passenger and goods miles assumed to cost the same.	s. d. 2 10	s. d. 3 2¾	s. d. 3 9½	s. d. 3 5	s. d. 5 7½	s. d. 4 7	s. d. 3 4½
(11.) Average cost of carrying a passenger one mile.	d. ·15	d. ·18	d. ·224	d. ·196	d. ·252	d. ·191	d. ·1113

(*b*) GOODS TRAFFIC.

Average length open, miles -	No. 1,280	No. 223¾	No. 1,266½	No. 838	No. 412 aver.	No. 158	No. 548
(1.) Receipts from goods traffic -	£ 2,056,560	£ 128,266	£ 1,680,891	£ 393,204	£ 335,894	£ 179,663	£ 165,633
(2.) Goods train miles run -	No. 4,157,532	No. 341,716	No. 4,100,361	No. 1,601,474	No. 694,329	No. 310,909	No. 675,560
(3.) Average goods train mile receipts.	s. d. 9 10¾	s. d. 7 6	s. d. 8 2¾	s. d. 4 11	s. d. 12 9¼	s. d. 11 6¾	s. d. 4 10
(4.) Tons of goods carried one mile.	Tons. 551,427,750	Tons. 31,885,777	Tons. 362,002,057	Tons. 83,144,640	Tons. 71,023,440	Tons. 36,378,280	Tons. 44,587,040
(5.) Average sum received for carrying *one* ton *one* mile.	d. ·895	d. ·965	d. 1·115	d. 1·135	d. 1·304	d. 1·185	d. ·881
(6.) Average number of tons in a goods train at one time.	No. 132·7	No. 93·3	No. 88	No. 52	No. 117	Tons. ·117	No. 66
(7.) Average number of goods trains per diem each way, supposing each train to run over the whole line open.	No. 4·45	No. 2·09	No. 4·45	No. 2·56	No. 2·01	No. 2·	No. 1·636
(8.) Average number of tons of goods passing over each mile of line daily (both ways).	No. 1,180	No. 390	No. 783	No 265	No. 472	No. 631	No. 223
(9.) Total working expenses for both goods and passengers, deducting from them telegraph, special and miscellaneous and demurrage receipts.	£	£ 94,734	£ 1,073,320	£ 398,291	£ 319,857	£ 126,448	£ 186,150
(10.) Average cost per train mile, goods and passenger miles assumed to *cost the* same.	s. d. 2 10	s. d. 3 2¾	s. d. 3 9½	s. d. 3 5	s. d. 5 7½	s. d. 4 7	s. d. 3 4½
(11.) Average cost of carrying a ton of goods one mile.	d. ·255	d. ·41	d. ·52	d. ·788	d. ·575	d ·47	d. ·612

It will be seen that the best passenger train load (363 persons) is obtained on the Oude and Rohilkund, where also the average rate charged for passenger mile is also the lowest (·241*d.*—less than one farthing) per mile. The worst average train load (204) was obtained on the Great Indian Peninsula, where the average rate was (·376*d.*) more than $\frac{3}{8}d.$ per mile.

The best average goods train load was obtained on the East Indian Main line (132·7 tons), where also the average charge per ton, per mile (·895*d.*) was lowest but one, the lowest being the Oude and Rohilkund (·881*d.*). The worst average load (52 tons) was, as last year, on the Madras line, its average rate per ton per mile being 1·135*d.*

The lowest cost per train mile (2*s.* 10*d.*) is found on the East Indian Main line, the highest (5*s.* 7*d.*) on the Bombay and Baroda.

The lowest cost of carrying a passenger one mile (·1113*d.*) is found on the Oude and Rohilkund, the highest on the Bombay and Baroda (·252*d.*).

The lowest cost of carrying a ton of goods a mile (·256*d.*) is found on the East Indian, the highest on the Madras (·788*d.*).

The largest passenger traffic (1,201 persons, per mile, per diem) is found on the Eastern Bengal, the smallest (490) on the Madras.

The largest goods traffic (1,180 tons per mile per diem) is found on the East Indian Main Line, the smallest (223 tons) on the Oude and Rohilkund.

All the lines show a considerable improvement over last year in the amount of traffic, and in the cost of working it, though the great variations between them show that there is still large room for improvement to be effected, mainly through the reduction of rates and the increase of train loads.

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94. The following tables give the rates charged for passengers and goods. It will be observed that, besides having five separate classes, there are special rates, which are generally lower than the lowest class. These are made under what are supposed to be exceptional circumstances, and are especially applied to long distances and to the staples of the country, such as grain, seeds, coal, rice, salt. It would seem desirable to introduce a more simple arrangement than this.

95. The quantities of the principal articles carried during each of the last two years are given in other tables, the classes to which the articles belong being specified.

Fares and Rates in use on the Indian Railways.

Railway.	Passengers. Fare for travelling One Mile. First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Goods. Rate for conveying One Ton One Mile. Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special.
Guaranteed.	pies.*	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.
East Indian, Main Line.	18	9	4½	3	—	9·073	13·61	18·146	22·685	27·221	From 4·537 to 9·073.
East Indian, Jubbulpore Line.	18	9	4½	3	—	9·073	13·61	18·146	22·685	27·221	From 4·537 to 9·073.
Great Indian Peninsula.	18	9	—	4	2⅔	10	14	24	34	48	From 5·5 to 8.
Madras { Single	18	7	—	3⅔	2	10	14	18	24	36	From 5 to 8.
Madras { Return	27	10½	—	4⅞	—	—	—	—	—	—	
			Third Class.								
			Mail	Ordinary							
Bombay, Baroda, and Central India.	15	7	4	3	—	10	15	21	30	40	Up to 8.
Sind, Punjab, and Delhi.	18	9	4½	3	—	9·07	13·61	18·14	22·68	27·22	From 6·80.
South Indian	8	3	—	2	—	12	—	—	24	54	From 6 to 10.
Eastern Bengal	12	6	—	4½	3	9·79	13·49	16·86	25·53	49·31	From 4·40 to 9·57.
	Upper	Upper Reserved Cmptmnt.	Lower	L. Resrvd. Cmptmnt.	Lower Reserved	Low	Middle			High	
Oude and Rohilkund	9	36	2	3	16 & 24	6·08	13·62	—	—	27·22	5·40.
State.	Upper	Lower	Special								
Calcutta and South-Eastern.	9	3	2	—	—	—	—	—	—	—	Average 7·15.
	Average	Average	Average			Average	Average	Average	Average	Average	
Nalhati	17·61	5·23	3·52	—	—	13·41	21·92	30·62	51·44	87·49	Average 11·25.
Amraoti	18	9	—	4	2⅔	10	14	24	34	48	5·5 to 8.
Khamgaon	18	9	—	4	2½	10	14	24	34	48	5·5 to 8.
Rajputana	9·89	4·13	—	2·11	—	13·49	19·17	27·20	—	—	7 to 37·02.
Wardha Valley	18	9	—	4	2⅔	10	14	24	34	48	5·5 to 8.
Holkar's:											
Station to station rates†	11·79	4·42	—	2·21	—	—	—	—	—		From 6·35 to 8·35.
	8 annas	3 annas	—	1½ anna	—	—	—	—	—	—	
Ditto ditto‡	14·77	7·38	3·69	2·30	—	13·33	19·87	26·67	—	—	From 6·35 to 8.35.
	8 annas	4 annas	2 annas	1¼ anna	—	—	—	—	—	—	
Punjab, Northern	9·32	4·66	—	1·74	—	10·48	15·72	20·96	—	—	5·45 to 6·13.
Tirhut	12·70	5·17	—	2·11	—	11·77	19·64	27·38	—	—	From 6·76.
Nizam's	18	9	—	4	2½	10	14	24	34	48	5·5 to 8.
Neemuch	10·37	5·19	2·59	1·62	—	—	—	—	—	—	
	8 annas	4 annas	2 annas	1¼ anna	—	—	—	—	—	—	

* 8 pies = 1*d.*

† The rates in use on the section of 57 miles, Khandwa to Choral.

‡ The rates in use on the section of 13 miles, Mhow to Indore, opened on 3rd August 1876 for passenger traffic only.

§ Station to station rate.

STATEMENT showing the QUANTITIES of the principal Articles of MERCHANDISE &c., carried on the GUARANTEED RAILWAYS in 1875 and 1876.

Articles.	Class.	East Indian, Main Line.		East Indian, Jubbulpore Line.		Great Indian Peninsula.		Madras.		Bombay, Baroda, and Central India.		Scinde, Punjab, and Delhi.		Eastern Bengal.		Oude and Rohilkund.		South Indian.	
		1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.
		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	2nd	See piece goods.		See piece goods.		—	—	5,563	5,799	Included in piece goods.		448	555	—	—	—	—	4,070	2,312
Coal	Special	520,261	515,904	6,424	9	654	178	1,219	494	1,483	1,576	639	730	6,563	4,443	3,189	1,987	—	—
Cocoa-nuts	2nd	See dried fruits.		See dried fruits.		10,203	10,362	3,466	2,991	5,763	4,529	602	Not separately abstracted in 1875.	—	—	—	—	Areca nuts. 3,197	2,379
Coffee	3rd	—	—	—	—	—	—	6,044	4,940	25	24	46	50	—	—	—	—	Stuffs 7,079	4,625
Cotton	2nd	27,984	33,867	1,535	1,676	84,721	101,279	23,475	30,602	47,533	50,139	7,871	9,407	750	505	8,209	6,275	880	—
		Including cocoa-nuts 5,646	5,430	Including cocoa-nuts 2,368	2,911														
Dried Fruits	2nd					13,794	13,867	—	—	5,111	5,374	6,253	6,974	—	—	—	—	—	—
Firewood	1st	15,111	13,552	13,142	11,530	43,266	34,977	10,389	11,529	5,266	5,534	9,469	14,121	—	—	9,141	12,002	—	—
Grain	1st or spec.	195,452	69,686	45,414	18,114	424,515	215,784	116,421	47,474	62,923	44,384	91,628	65,700	12,365	14,271	154,846	75,302	68,650	41,940
Gunny Bags	2nd	—	—	—	—	—	—	—	—	—	—	—	—	5,845	6,497	—	—	—	—
Green Fruits and Vegetables	—	—	—	—	—	16,505	14,029	4,689	5,187	11,038	8,968	3,843	3,145	—	—	1,634	1,668	2,853	2,496
Hides	2nd	Including skins 19,180	19,170	Including skins 3,385	1,462	10,856	5,573	14,739	9,113	918	701	4,056	2,734	4,357	6,184	2,664	2,118	1,637	1,213
Iron	1st	54,184	39,875	3,352	3,769	—	—	9,451	8,992	Included in metals.		10,635	9,960	32	34	—	—	Granite stones 20,845	8,211
Jagree and Sugar	2nd	Including molasses 100,956	65,496	Including molasses 25,047	22,203	28,257	25,686	11,682	14,169	28,388	27,909	47,575	36,906	9,350	7,389	71,278	40,713	—	—
		Including hemp and flax ‡614	620	Including hemp and flax 268	231														
Jute	2nd	—	—	—	—	—	—	—	—	—	—	—	—	144,970	94,694	553	320	—	—
Metal and Hardware	3rd	—	—	—	—	24,939	32,899	—	—	8,197	7,800	2,252	1,870	968	667	4,184	3,618	—	—
Military Stores	3rd	18,392	21,157	1,556	1,343	9,062	7,591	4,647	3,556	1,928	1,665	10,412	11,068	135	212	4,662	7,032	—	—
Oil	2nd	4,230	3,517	366	86	8,667	10,115	7,080	6,758	2,300	1,422	2,491	Not separately abstracted in 1875.	—	—	675	648	and ghee 3,215	2,123
Opium	3rd	9,496	6,531	—	—	4,245	3,426	—	—	936	1,254	59		16	16	1,163	523	Oil cakes 6,124	2,639
Piece Goods	—	Including cloth 49,285	47,149	Including cloth 5,897	5,030	17,371	17,381	—	—	7,617	7,689	10,446	9,903	10,370	10,263	3,939	3,692	—	—
Rice	1st or spec.	174,065	110,057	11,116	2,051	—	—	101,243	75,118	Included in grain.		9,966	Not abstracted separately in 1875.	15,482	22,840	—	—	—	—
Salt	1st or spec.	154,223	143,919	6,442	6,609	81,491	70,572	51,471	47,996	43,950	38,246	17,210	11,055	15,337	3,776	40,015	36,603	16,526	11,570
Seeds	1st or spec.	202,797	159,714	19,628	11,296	159,371	117,015	19,232	16,921	35,157	28,528	78,437	60,184	28,608	22,081	17,808	10,306	11,609	7,508
Silk	2nd	658	718	68	118	530	697	—	—	Included in piece goods.		85	122	118	117	—	—	Sundries. 35,872	21,184
Tea	4th	—	—	—	—	—	—	—	—	—	—	—	—	420	1,170	—	—	—	
Timber	2nd	60,255	13,917	398	6,401	11,343	22,406	15,153	17,327	19,494	8,981	5,750	3,719	—	—	12,074	18,839	—	—
Tobacco	3rd	10,117	8,930	822	1,064	2,982	3,677	6,272	6,127	6,518	8,100	1,151	947	11,251	9,017	616	557	1,154	892
Twist	2nd	3,201	2,729	681	383	5,569	5,709	5,002	4,389	2,188	2,183	1,491	1,230	—	—	731	627	—	—
Turmeric	2nd	—	—	—	—	—	—	—	—	—	—	—	—	4,083	2,674	—	—	—	—
Wines, Spirits, &c.	3rd or extra.	6,497	8,979	581	398	3,753	4,001	2,556	2,930	645	619	2,347	2,717	316	381	2,309	2,455	—	—
Wool	2nd	—	—	—	—	388	211	—	—	2,476	2,185	6,526	5,798	—	—	(not included in above). 102,166	74,178	—	—

STATEMENT showing the QUANTITIES of the principal Articles of MERCHANDISE, &c., carried on the STATE RAILWAYS in 1875 and 1876.

Articles.	Classes.	Calcutta and South Eastern.		Nalhati.		Amraoti.		Khamgaon.		Nizam's.		Wardha Valley.		Tirhut.		Punjab, Northern.		Rajputana.		Holkar's.‡		Neemuch.	
		1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.	1876.	1875.*	1876.	1875.	1876.	1875.	1876.	1875.
		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	—	1	—	153	7	—	—	—	—	—	—	—	—	—	—	—	—	Included in piece goods.		—	—		
Coal	—	3	42	4,170	4,797	11	—	1	—	27	—	1,040	—	1,234	—	—	—	282	139	—	—		
Cocoa-nuts	—	—	—	—	—	866	—	67	—	176	—	73	—	—	—	—	—	Included in dry fruits.		1,208	1,340		
Coffee	—	—	—	—	—	2	—	—	—	49 and ten.	—	—	—	—	—	—	—	—†	—†	—	—		
Cotton	—	—	—	346	287	10,767	—	13,404	—	86	—	1,498	—	192	—	95	19	7,658	9,022	—	—		
Dried Fruits	—	—	—	215	29	1,426	—	95	—	1,102	—	114	—	31	—	513	306	1,637	1,103	—	—		
Firewood	—	21,818	24,585	—	—	—	—	55	—	2,918	—	—	—	291	—	179	—	Not carried.		—	—		
Grain	—	7	—	539	319	11,033	—	3,762	—	17,612	—	516	—	12,304	—	6,906	877	15,034 and pulses.	24,062	22,376	33,598		
Green Fruits and Vegetables	—	—	—	—	242	79	—	18	—	817	—	—	—	—	—	550	135	378	293	737	467		
Hay	—	3,623	2,709	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Hides	—	—	—	30	27	49 & horns.	—	5 & horns.	—	927 & horns.	—	2 & horns.	—	475	—	529	194	1,182 and leather.	922	265	74		
Iron	—	46	18	46	59	—	—	—	—	—	—	—	—	38	—	92	—	Included in metal and hardware.		—	—		
Jagree and Sugar	—	—	—	343	162	698	—	203	—	909	—	80	—	321	—	2,042	—	35,917	19,679	4,989	5,772		
Jute	—	49	78	7	9	—	—	—	—	—	—	—	—	4	—	65	—	182 and flax.	—	—	—		
Metal and Hardware	—	—	—	152	158	508	—	302	—	988	—	97	—	36	—	395	113	2,130	2,574	1,346	1,210		
Military Stores	—	—	—	—	—	12	—	—	—	1,166	—	15	—	—	—	1,203	—	896	12	1,362	1,273		
Miscellaneous	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6,366	4,978	Nil.	Nil.
Oil	—	—	—	24	12	39	—	4	—	405	—	—	—	2	—	380	129	502 and ghee.	182	449	275		
Opium	—	—	—	5	6	29	—	3	—	82	—	—	—	—	—	—	—	Not carried.		3,021	2,009		
Piece Goods	—	—	—	964	836	614	—	62	—	1,014	—	114	—	204	—	1,122	213	2,643	1,768	2,134	1,776		
Railway Materials	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,393	14,585		
Rice	—	516	195	1,458	769	—	—	—	—	—	—	—	—	9,725	—	216	5	Included in grain.		—	—		
Salt	—	—	—	350	507	3,769	—	1,375	—	11,523	—	2,888	—	1,364	—	3,370	15	80,533	72,888	—	—		
Seeds	—	—	—	617	1,222	3,380	—	591	—	5,752	—	4,893	—	3,007	—	—	—	2,126	813	—	—		
Straw	—	750	563	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Silk	—	—	—	467	450	10	—	—	—	14	—	—	—	—	—	29	—	—†	—†	—	—		
Sundries	—	1,593	723	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Timber	—	—	—	1,745 4	1,679	447	—	16	—	775	—	9	—	218	—	2,502	261	884	530	—	—		
Tobacco	—	—	—	22	13	67	—	—	—	94	—	—	—	1,397	—	47	20	560	290	1,090	1,550		
Twist	—	—	—	—	7	137	—	3	—	208	—	13	—	—	—	—	—	Included in piece goods.		—	—		
Wines, Spirits, &c.	—	—	—	34	45	42	—	11	—	381	—	10	—	30	—	924	216	168	148	362	294		
Wool	—	—	—	3	—	—	—	—	—	6	—	—	—	—	—	256	76	136	175	—	—		
Wooloo	—	1,555	3,224	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

* Six months only. † As miscellaneous in official accounts. In future the list of commodities will be kept, as far as possible, under the heads herein given.

STATEMENTS relating to the PASSENGER and GOODS TRAFFIC and the GROSS

TABLE No. 1.—STATEMENT of TRAFFIC on the INDIAN

Railway.	Actual Number of Miles open on 31st December, and Average Number of Miles of Open Line during 1876.						Number of Miles of Sidings on 31st December 1876.	Passenger Traffic.						
	Double.		Single.		Total			Number of Passengers (*exclusive of* Holders of Season and Periodical Tickets).						Number of Holders of Season and Periodical Tickets.
	Actual.	Average.	Actual.	Average.	Actual.	Average.		By First Class.	By Second Class.	By Intermediate Class.	By Third Class.	By Fourth or Coolie Class.	Total by all the Classes.	
GUARANTEED.														
East Indian, Main Line	410¾	410¾	869	869	1,279¾	1,279¾	280½	48,150½	122,904	490,559½	5,635,182	—	6,296,805	10,012½
East Indian, Jubbulpore Line	—	—	223¾	223¾	223¾	223¾	21¾	5,447	21,474½	9,651½	268,237½	—	304,810½	—
Great Indian Peninsula	325	325	943½	943½	1,268½	1,268½	203½*	27,898	117,513½	—	476,402	3,243,710	3,865,523½	899
Madras	3½	2½	858	858	861½	860½	90½	12,622½	43,834½	—	1,763,196½	973,875	2,793,528½	115
Bombay, Baroda, and Central India	23¾	23½	416	407½	439½	430¾	74½	18,497	158,153	—	Third Class Mail 395,671	Ordy. 3,752,327	4,325,148	6,206
Scinde, Punjab, and Delhi	4½	4½	659	659	663½	663½	103½	19,171	43,978½	27,725	2,325,108½	—	2,415,983	2
South Indian	—	—	475	423	475	423	38	8,491	68,336½	—	2,744,187	—	2,821,014½	3
Eastern Bengal	—	—	153½	153½	153½	153½	—	30,103	54,462	—	330,368	1,323,373½	1,738,306½	2,504
Oude and Rohilkhund	—	—	548†	548	548	548	55¾	Upper 29,216½	—	—	Lower 2,536,329½	—	2,536,546	—
STATE.														
Calcutta and South-eastern	—	—	28	28	28	28	6¾	Upper 3,361½	—	—	Lower 513,940	—	517,301½	—
Nulhati	—	—	27½	27½	27½	27½	1¼	970¼	5,704	—	94,199	—	100,873½	—
Berar — Amraoti	—	—	6	6	6	6	¾	658	2,069	—	31,799	31,082¼	65,608½	—
Berar — Kamgaun	—	—	7¾	7¾	7¾	7¾	¾	199	274½	—	2,122	6,638½	9,279	—
Nizam's	—	—	121	121	121	121	7	2,255	7,090½	—	15,465½	190,992	215,803	—
Wurdha Valley	—	—	18	18	18	18	1½	123½	201	—	1,184	10,066½	11,575	—
Tirhoot	—	—	45½	45½	45½	45½	5	1,160	1,939	—	116,203	—	119,332	—
Punjab, Northern	—	—	103	90½	103	90½	7¼	2,730	9,746	—	689,001	—	701,477	—
Rajputana	—	—	396½	394½	396½	394½	37¼	4,543	16,808	—	1,274,246	—	1,295,597	—
Holkar's	—	—	70	62½	70	62½	9	1,993	9,415	2,732	276,783	—	290,923	3
Neemuch	—	—	37	37	37	37	3¾	204	884	1,181	75,820	—	78,089	1
Totals for Railways	767	766	6,010½	5,928	6,777½	6,694	948½	208,808	684,815½	531,849	19,565,444½	9,532,610	30,523,527	20,457½
Indus Steam Flotilla	—	—	—	—	—	—	—	257½	200½	—	11,334	—	11,792	—
Totals for Railways and Flotilla	—	—	—	—	—	—	—	209,065½	685,016	—	19,576,778½	—	30,535,319	—

* Campoolie and Mowpani Branches treated as sidings.

† Including Nurora Branch (4 miles)

RECEIPTS and EXPENSES for the Year ended 31st December 1875.

RAILWAYS during the Year ended 31st December 1876.

Goods Traffic.											
	Number of Tons of Minerals.				Number of Tons of General Merchandise.						
Number of Live Stock.	Number of Tons of Coal and Coke.	Number of Tons of all other Minerals.	Total Number of Tons of Minerals.	Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special and Sundry.	Total of all Classes.	Railway.
											GUARANTEED.
11,797	529,261	—	529,261	1,085,923	153,765	47,922	24,200	4,755	81,402	1,397,967	East Indian, Main Line.
18	6,424	—	6,424	170,645	17,646	7,207	1,550	310	5,397	203,145	East Indian, Jubbulpore Line.
303,416	638	—	638	152,532	166,518	30,844	27,280	5,467	795,712	1,178,153	Great Indian Peninsula.
12,885	—	—	—	149,112	51,818	24,926	6,237	5,184	376,876	614,153	Madras.
200,382	1,483 / 29,955*	32,944‡	64,382	108,215	48,405	46,615	1,141	1,396	239,184	444,956	Bombay, Baroda, and Central India.
594	854	—	854	81,975	61,454	26,847	14,553	2,113	309,418	496,365	Scinde, Punjab, and Delhi,
6,321	—	—	—	64,103	—	—	1,470	105	133,921	199,599	South Indian.
2,125	6,563	2,396	8,959	18,981	52,581	5,076	1,926	163	216,527	295,254	Eastern Bengal.
250	3,189	—	3,189	Low 62,962	Middle 31,053	High 2,703	—	—	342,034	438,752	Oude and Rohilkhund.
											STATE.
38	3½	—	3½	—	—	—	—	—	29,963	29,963	Calcutta and South-eastern.
—	4,170	—	4,170	3,423	1,277	1,230	384	23	1,187	7,524	Nulhati.
—	2	—	2	3,082	14,879	1,082	103	53	19,355	38,554	Amraoti - } Berar.
—	—	—	—	919	13,726	143	12	8	5,890	20,698	Kamgaun - }
456	6	—	6	4,871	7,193	2,716	260	218	44,171	59,429	Nizam's.
—	1,040	—	1,040	1,746	2,097	103	15	1	8,350	12,317	Wurdha Valley.
26	1,234†	—	1,234	12,707	683	516	—	—	22,781	36,687	Tirhoot.
—	—	—	—	21,230½	4,760	3,506	—	—	71,463½	100,960½	Punjab, Northern.
2½	275	—	275	140,987	4,563	1,477	—	—	15,868	162,895	Rajputana.
7	—	—	—	37,787	4,093	4,305	—	—	11,393	57,578	Holkar's.
—	—	—	—	—	—	—	—	—	—	—	Neemuch.
538,324	576,077½	35,340	611,417½	2,121,200½	636,311	207,313	79,136	19,796	2,731,192½	5,794,949½	Totals for Railways.
—	—	—	—	—	—	—	—	—	—	72,314	Indus Steam Flotilla.
—	—	—	—	—	—	—	—	—	—	5,867,263½	Totals for Railways and Flotilla.

* On Company's account. † Includes 1,047 tons of coal for consumption. ‡ Company's own materials.

TABLE No. 2.—STATEMENT of TRAFFIC on the INDIAN RAILWAYS

Railway.	Number of Engines and Vehicles used in conveying Traffic.												Number of Miles travelled in shunting piloting.				
	Engines.	Carriages. First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth Class.	Total Number.	Trucks.	Average Number of Vehicles in each Train. Carriages in each Passenger Train.	Trucks in each Goods Train.	In each Mixed Passenger and Goods Train. Carriages.	Trucks.	By Passenger (including Special and Troop) Trains.	By Goods (including Construction Materials for other Railways) Trains.	By Mineral Trains.	By Mixed Passenger and Goods Trains. (P.)	(G.)
GUARANTEED.																	
East Indian, Main Line	450	84	85	132	322	—	623	5,387	16½	29½	16	7½	1,235,587	3,584,033	226,854	1,119,565	346,695
East Indian Jubbulpore Line	40	8	14	4	30	—	56	881	14½	24½	8¾	17¼	177,488	250,188	—	72,334	91,527
Great Indian Peninsula	331	79	146	composite 87	369	67	748	6,760	15	27	9	18	1,201,572	3,690,488	—	313,043	418,873
Madras	100	30	57	composite 30	196	33	346	2,756	9	17	6	9	14,293	679,774	—	717,683	921,700
Bombay, Baroda, and Central India	64	13	25	composite 16	171	—	225	2,436	9·4	42·6	11	14·8	414,633	442,897	—	123,574	161,432
Scinde, Punjab, and Delhi	67·10	44	55·84	21·67	212·07	—	3·58	2,650·15	13·52	34·80	9·83	19·14	327,243	351,169	—	329,650	186,443
South Indian	93	37	20	Royal saloon 3	213	—	366	1,400	—	—	22		—	—	—	596,540	
Eastern Bengal	38	29	16	—	40	61	146	696	14	40	4	31	187,330	167,354	—	52,945	143,615
Oudh and Rohilkund	63	Upper 17	—	composite 29	Lower 207	—	253	1,254	18·88	24·04	11	11	10,315	298,526	—	419,943	377,034
STATE.																	
Calcutta and South-eastern	5	Upper 4	—	—	Lower 37	—	41	168	14	20	8	20	20,550	224	—	10,638	10,638
Nulhati	4	1	—	—	4	—	6	15	—	—	5	6	—	—	—	24,128	16,084
Berar — Amraoti	2	—	—	composite 1	2	2	5	33	2·5	22	6	11	6	570	—	1,485	2,907
Berar — Khamgaun	2	—	—	composite 1	2	2	5	33	15	20	4·5	12·5	—	208	—	1,067	2,341
Nizam's	5	4	6	composite 1	10	10	31	70	18	24·5	13·5	14·5	2,432	64,938	—	48,723	38,849
Wurdha Valley	1	—	—	composite 1	2	2	5	23	6·5	17·5	4	12	38	1,900	—	1,615	1,937
Tirhoot	7	—	—	composite 2	*11	—	13	140	—	—	9·87	12·74	275	184	By construction train 31,455	15,400	23,101
Punjab, Northern	11·75	6	6	—	43	—	55	230	—	29·29	11·14	5·48	—	43,437	—	82,144	50,044
Rajputana	54	39	11	—	105	—	155	959	71·	26·1	12·38	9·12	8,885	177,007	—	319,414	215,568
Holkar's	20	and saloon 6	4	—	59	break vans 7	76	257	10	25	8	14	25,479	51,157	—	15,143	17,968
Neemuch	1	1	1	—	9	break vans 2	13	8	15	—	—	—	11,224	—	—	—	—
Totals	—	—	—	—	—	—	—	—	—	—	—	—	3,664,350	10,004,054	258,309	3,667,894	3,027,50
																596,540	
																7,291,940	

* Includes seven cattle vans, used as 3rd class carriages

during the Year ended 31st December 1876—*continued.*

By Trains (except and assisting).			Number of Ton Miles (expressed in the Number of Tons moved One Mile).												
			Goods Traffic.												
					General Merchandise.								Proportion of Up and Down Traffic.		
By Trains conveying Materials for Revenue Purposes.	Total Number of Train Miles.	Number of Train Miles per open Mile.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Minerals.	First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Special and Sundry.	Total of all Classes.	Total Mineral and General Merchandise.	Up.	Down.	Railway.
			Lug. and parcels. 2,884,777 cargs., &c. 1,825,423												GUARANTEED.
119,092	6,631,826	5,183·13		96,148,625	333,895,602	63,022,659	17,197,693	8,646,245	1,335,846	26,480,999	455,279,225	551,427,750	36·74	63·26	East Indian, Main Line.
2,344	594,383	2,656·40	Lug. and parcels. 433,140 cargs., &c. 189,740	1,438,768	24,015,080	3,602,255	1,403,951	320,502	64,637	1,040,584	30,447,009	31,885,777	81	19	East Indian, Jubbulpore Line.
—	5,623,976	4,434	—	106,893	36,667,717	52,101,461	8,983,894	6,606,458	1,896,015	253,639,942	359,895,487	360,004,385	67	33	Great Indian Peninsula.
—	2,333,450	2,720	1,162,704	—	25,520,978	9,108,944	4,182,778	1,323,571	633,342	42,058,669	82,833,782	82,833,782	55·53	44·47	Madras.
83,018	1,225,554	2,845	Luggage only. 386,531	7,956,670	18,622,956	10,316,102	12,294,938	198,913	376,651	25,500,508	67,310,068	75,266,738	55·65	44·25	Bombay, Baroda, and Central India.
100,750	1,495,254	2,253	679,840	170,877	11,561,395	10,128,242	4,183,224	2,037,195	363,120	39,760,013	68,033,189	68,204,066	70	30	Scinde, Punjab, and Delhi.
26,268	622,808	—	126,867	—	4,762,765	—	—	136,414	10,331	9,631,451	14,540,961	14,667,818	44	56	South Indian.
—	551,244	3,483	189,396	623,193	1,453,643	6,858,671	481,019	217,659	22,177	26,714,921	35,748,095	36,371,288	16·87	83·13	East Bengal.
11,874	1,117,692	2,039	524,302	108,429	Low 6,924,769	Middle 3,905,948	High 357,170	—	—	28,933,064 3,799,558	43,621,409	43,729,838	—	—	Oude and Rohilkhund.
															STATE.
164	42,154	1,505	3,163	98	—	—	—	—	—	701,619	701,619	701,707	98·33	1·17	Calcutta and South eastern.
184	40,396	1,432	7,586	113,136	68,667	34,508	33,181	10,350	620	32,339	179,665	292,801	79·07	20·93	Nulhati.
—	4,933	828	—	13	18,489	89,274	6,493	619	321	116,126	231,322	231,335	68	32	Amraoti } Berar.
—	3,616	467	—	—	7,354	109,810	1,141	98	61	47,122	165,586	165,586	85	15	Kamgaun } Berar.
—	155,942	1,289	—	724	485,510	748,390	303,734	24,018	23,074	3,870,949	5,456,275	5,456,999	20	80	Nizam's.
—	4,940	274	—	19,759	33,143	39,831	2,067	277	24	153,163	233,510	253,269	62	38	Wurdha Valley
88	70,503	1,549·51	16,519	26,364	515,520	29,621	21,246	—	—	864,297	1,430,684	1,457,048	75·05	24·95	Tirhoot.
—	177,625	6,724·51	79,264	—	1,425,621	349,719	240,614	—	—	1,439,485	3,475,439	—	46·58	56·42	Punjab, Northern.
41,395	762,769	1,926	516,468	48,676	15,136,935	712,854	234,593	—	—	6,088,373	22,167,955	22,211,631	45·73	54·27	Rajputana.
2,640	139,087	2,230	36,336	—	1,981,987	218,676	239,396	—	—	617,244	3,057,213	3,057,213	13·12	86·88	Holkar's.
—	11,224	303	7,884	—	—	—	—	—	—	—	—	—	—	—	Neemuch.
388,757	21,609,411	—	8,715,930	106,759,225	487,798,226	161,376,956	50,167,042	19,527,319	4,727,319	471,211,531	1,194,808,393	1,298,219,051	—	—	Totals

TABLE No. 3.—GROSS RECEIPTS of the INDIAN RAILWAY

Railway.	Passenger Traffic.													Receipts from Live Stock.	Receipts from	
	Receipts from Passengers.							Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Receipts for Mail Service.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic.—(P.)	Passenger Receipts per Train Mile.		From Coal and Coke.	From other Minerals.
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.									
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	£	s.	£	£	£
East Indian, Main Line	45,702	39,538	40,807	586,027	—	4,472	716,546	75,979	3,326	34,257	20,991	851,099	7·227	1,312	245,295	—
East Indian, Jubbulpore Line	6,096	5,205	2,453	51,795	—	—	65,549	7,879	977	10,034	7,173	91,612	7·334	8	3,248	—
Great Indian Peninsula	38,134	56,112	—	111,390	203,525	1,049	410,210	63,271	1,699	8,194	—	483,374	6·38	7,520	49	—
Madras	14,455	14,754	—	140,850	38,733	120	208,912	25,159	—	3,299	—	237,370	6·486	2,134	—	—
Bombay, Baroda, and Central India	4,935	10,306	—	Third class. Mail Train 51,361	Ordinary 125,558	3,958	196,118	14,125	165	384	3,738	214,530	7·97	11,260	609	*5,650
Scinde, Punjab, and Delhi	14,718	13,844	5,121	163,721	—	7	197,411	25,522	1,032	1,780	—	225,745	6·87	263	546	—
South Indian	1,816	3,616	—	102,593	—	7	108,032	4,938	—	432	—	113,402	3·80	332	—	—
Eastern Bengal	3,370	3,211	—	21,248	68,411	1,361	98,101	10,064	70	273	—	108,508	9·03	33	1,747	144
Oudh and Rohilkhund	Upper 7,462	—	—	Lower 136,834	—	—	144,296	11,405	—	1,150	—	156,851	7·29	60	323	—
STATE.																
Calcutta and South-eastern	Upper 206	—	—	Lower 6,498	—	—	6,704	229	—	4	—	6,937	4·45	9	1	—
Nuihuttee	286	412	—	3,716	—	—	4,354	432	13	17	—	4,816	3·97	—	679	—
Berar — Amraoti	28	50	—	366	225	—	669	43	—	—	—	712	9·55	—	1	—
Berar — Kamgaum	12	9	—	32	67	—	120	15	—	—	—	135	2·53	—	—	—
Nizam's	1,432	2,140	—	2,870	13,460	—	19,952	2,073	—	592	—	23,217	9·08	16	3	—
Wurdha Valley	13	14	—	42	226	—	300	19	—	—	—	319	6·06	—	57	—
Tirhoot	264	193	—	4,342	—	—	4,799	273	—	44	—	5,116	6·53	1	130	—
Punjab, Northern	820	1,161	—	21,068	—	—	23,069	1,697	—	896	—	25,662	6·248	—	—	—
Rajputana	1,910	2,777	—	71,275	—	—	75,962	7,251	—	894	—	84,107	5·124	25	280	—
Holkar's	338	631	65	8,615	—	7	9,736	331	—	242	—	10,309	3·20	1	—	—
Neemuch	34	71	44	1,924	—	8	2,081	152	—	18	—	2,251	4·01	—	—	—
Totals for Railways	142,576	154,074	48,490	1,486,587	450,205	10,989	2,292,921	251,967	7,282	62,510	31,892	2,646,562	—	22,979	253,514	5,794
Indus Steam Flotilla	2,595	289	—	4,736	—	—	7,620	885	—	—	—	8,505	—	—	—	—
Totals for Railways and Flotilla	145,171	154,363	48,490	1,491,323	450,205	10,989	2,300,541	252,842	7,282	62,510	31,892	2,655,067	—	—	—	—

during Year ended 31st December 1876.

Goods Traffic.																
Minerals.	Receipts from General Merchandise (*exclusive of* Live Stock and Minerals).															
Total Receipts from Minerals.	From First or Lowest Class.	From Second Class.	From Third Class.	From Fourth Class.	From Fifth or Highest Class.	From Special and Sundry.	Total.	Total Receipts from Goods Traffic—(G.)	Goods Receipts per Train Mile.	Total Receipts from Passenger and Goods Traffic—(P.)+(G.)	Passenger and Goods Receipts per Train Mile.	Total Miscellaneous Receipts—(M.)	Miscellaneous Receipts per Train Mile.	Total Receipts from Passengers, Goods, and Miscellaneous—(P.)+(G.)+(M.)	Total Receipts per Train Mile.	Railway.
£	£	£	£	£	£	£	£	£	s.	£	s.	£	s.	£	s.	GUARANTEED.
245,225	1,023,612	396,690	148,682	82,981	17,490	†142,239	1,811,694	2,058,301	9·901	2,909,290	8·934	100,793	·31	3,010,133	9·244	East Indian, Main Line.
3,248	80,564	22,739	12,085	5,469	856	‡3,366	125,079	128,335	7·511	219,947	7·436	25,222	·853	245,169	8·289	East Indian, Jubbulpore Line.
495	135,357	432,907	105,182	78,480	43,954	832,582	1,678,762	1,686,777	8·21	2,170,151	7·72	66,678	·23	2,226,829	7·95	Great Indian Peninsula.
—	121,870	56,277	33,155	14,095	9,988	155,090	390,475	393,609	4·903	629,979	5·399	22,117	·189	652,096	5·589	Madras.
6,259	93,999	63,616	99,233	2,974	7,925	100,627	368,374	385,893	12·77	600,423	10·51	20,370	·36	620,793	10·87	Bombay, Baroda, and Central India.
546	62,266	24,762	37,540	70,551	4,566	141,513	341,198	342,012	9·27	567,757	8·14	22,311	·32	590,068	8·46	Scinde, Punjab, and Delhi.
—	27,931	—	—	1,523	271	38,759	68,489	68,831	2·31	182,223	6·11	8,562	0·29	190,785	6·40	South Indian.
1,891	6,146	43,874	3,881	2,634	527	120,577	177,739	179,063	11·54	288,171	10·45	14,600	·53	302,771	10·98	Eastern Bengal.
323	Low 25,566	Middle 31,530	High 5,121	—	—	101,033	163,250	163,633	4·86	320,434	5·80	20,199	·36	340,633	6·14	Oude and Rohilkhund.
																STATE.
1	—	—	—	—	—	2,616	2,616	§2,715	5·00	9,652	4·59	182	·09	9,834	4·67	Calcutta and South-eastern.
679	479	393	524	277	28	175	1,876	§2,503	3·24	7,419	3·67	126	·06	7,545	3·73	Nulhati.
1	584	2,632	243	26	16	2,099	5,600	5,601	32·22	6,313	25·41	57	0·23	6,370	25·64	Amraoti } Berar.
—	131	2,029	26	2	2	620	2,810	2,810	22·05	2,945	16·29	14	·08	2,959	16·37	Kamgaun } Berar.
3	2,808	5,861	3,693	400	544	16,654	29,960	29,979	5·72	53,196	6·82	128	·02	53,324	6·84	Nizam's.
57	238	594	31	5	1	751	1,630	1,687	8·17	1,906	7·72	8	·03	1,914	7·75	Wurdha Valley.
130	3,163	303	303	—	—	3,019	6,787	6,918	5·94	12,034	6·18	‖5,910	3·03	17,944	9·21	Tirhoot.
—	8,601	3,059	2,841	—	—	6,835	21,336	21,336	4·565	46,998	5·202	585	·065	47,583	5·357	Punjab, Northern.
280	106,346	7,117	3,323	—	—	31,210	147,996	148,391	7·55	232,408	6·45	4,150	·11	236,553	6·56	Rajputana.
—	14,549	2,431	3,594	—	—	2,888	23,462	23,463	6·82	34,272	5·02	3,567	·51	37,839	5·44	Holkar's.
—	—	—	—	—	—	—	—	—	—	2,251	4·01	6	·01	2,257	4·02	Neemuch.
259,208	1,764,209	1,096,724	459,457	287,422	86,168	1,705,053	5,399,033	*5,651,357	—	8,297,919	—	315,585	—	8,608,504	—	Total for Railways.
—	—	—	—	—	—	—	—	132,303	—	140,813	—	—	—	140,813	—	Indus Steam Flotilla.
—	—	—	—	—	—	—	—	4,783,665	—	8,438,732	—	315,585	—	8,744,317	—	Totals for Railways and Flotilla.

* From Company's own materials carried on Capital Account.
† Includes 1,744*l.* 0*s.* 10*d.*, being receipts on account of demurrage and wharfage, stowage, &c.
‡ Ditto, 68*l.* 3*s.* 8*d.*, ditto, ditto, ditto.
§ Include goods, miscellaneous earnings, Calcutta and South-Eastern, 89*l.*, and Nulhati 48*l.*
‖ Includes 5,522*l.* receipts from construction on account of hire of locomotives and vehicles.

TABLE No. 4.—EXPENDITURE ON REVENUE ACCOUNT

Railway.	Maintenance and Renewal of Way and Works.				Cost of producing Locomotive Power by Wages and Materials.			Repairs and Renewals of Carriages and Waggons.			Coaching and Merchandise.			Collection and Delivery of Goods.			Rates
	Gross.		Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.
	Ordinary.	Special.															
GUARANTEED.	£	£	d.		£	d.		£	d.		£	d.		£	d.		£
East Indian, Main Line	286,553	—	10·56	9·52	246,976	9·10	8·20	105,075	3·87	3·49	220,511	8·13	7·33	—	—	—	4,946
„ Jubbulpore Line	39,772	—	16·14	16·22	30,784	12·49	12·56	11,798	4·79	4·81	13,183	5·35	5·38	—	—	—	8
Great Indian Peninsula	155,072	11,783	7·16	7·5	435,387	18·58	19·5	168,331	7·19	7·5	155,670	6·64	7·0	311	0·01	—	1,236
Madras	105,358	20,601	12·95	19·32	148,735	15·30	22·31	36,037	3·71	5·53	60,617	6·23	9·30	368	·04	·06	738
Bombay, Baroda, and Central India.	68,483	46,331	22·48	18·49	94,073	18·42	15·16	28,312	5·54	4·56	51,111	10·01	8·23	1,871	·37	·30	672
Scinde, Punjab, and Delhi	76,890	54,435	21·030	22·257	107,499	17·214	18·218	28,306	4·533	4·797	59,290	9·492	10·046	5,640	·904	·956	193
South Indian	Gross 7,111	—	2·74	3·73	47,420	18·27	24·85	18,381	7·08	9·63	16,100	6·20	8·44	—	—	—	271
Eastern Bengal	30,647	1,790	14·12	10·72	31,252	13·61	10·33	12,635	5·51	4·18	33,013	16·55	12·56	—	—	—	686
Oudh and Rohilkhund	41,256	—	8·86	12·09	69,431	14·90	20·35	31,584	6·78	9·28	40,322	8·66	11·82	121	·03	·04	—
STATE.																	
Calcutta and South-eastern	1,755	1,597	19·08	34·09	2,988	16·44	29·36	2,028	11·54	20·62	1,144	6·51	11·63	—	—	—	62
Nalhati	1,535	2,235	22·40	56·14	2,357	14·00	31·34	419	2·49	5·57	841	4·90	11·18	—	—	—	15
Berar — Amraoti	Gross 233	—	13·68	4·45	2,057	99·32	32·27	797	38·50	12·50	713	34·47	11·20	—	—	—	—
Berar — Kamgaun	Gross 254	—	16·87	8·59	925	61·42	31·27	358	23·81	12·13	321	21·30	10·85	—	—	—	—
Nizam's	Gross 12,669	—	19·49	23·76	16,190	24·92	30·36	6,278	9·66	11·77	5,617	8·64	10·53	—	—	—	—
Wardha Valley	Gross 568	—	27·59	29·68	836	40·64	43·71	324	15·76	16·95	290	14·10	15·16	—	—	—	—
Tirhoot	2,883	—	9·81	16·	4,509	15·34	25·1	404	1·37	2·1	2,536	7·22	14·1	—	—	—	—
Punjab, Northern	11,583	—	15·65	24·56	9,898	13·37	20·98	2,396	3·24	5·04	5,405	7·30	11·36	—	—	—	—
Rajputana	39,847	3,157	13·53	18·18	54,567	17·17	23·07	9,530	2·89	4·03	21,913	6·89	9·26	—	—	—	—
Holkar's	5,910	—	10·20	15·62	10,235	17·75	27·18	4,022	6·94	10·63	8,281	14·29	21·89	—	—	—	—
Neemuch	—	—	—	—	680	14·54	30·13	27	·58	1·19	385	8·23	17·06	—	—	—	—
Totals for Railways	889,429	141,929	—	—	1,316,749	—	—	467,042	—	—	702,253	—	—	8,301	—	—	8,871
Indus Steam Flotilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals for Railways and Flotilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

during Year ended 31st December 1876.

and Taxes.		Compensation for Personal Injury, &c., Damage and Loss of Goods.				Legal and Parliamentary Expenses.			Miscellaneous Working Expenditure, not included in the foregoing.			Total Working Expenditure.			Railway.
Per Train Mile.	Per cent. of Gross Receipts.	Gross. Personal.	Gross. Goods.	Per Train Mile.	Per cent. of Gross Receipts	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	
d.		£	£	*d.*		£	*d.*		£	*d.*		£	*s.*		GUARANTEED.
·18	·16	—	1,109	·04	·04	366	·01	·01	159,399	5·67	5·30	1,024,935	3·14	34·05	East Indian, Main Line.
—	—	—	67	·03	·03	29	·01	·01	24,397	9·89	9·95	120,038	4·06	48·96	East Indian, Jubbulpore Line.
0·05	—	—	1,405	·06	—	1,427	·06	—	125,899	5·37	5·5	1,037,565*	3·76	47·	Great Indian Peninsula.
·07	·11	953	321	·13	·19	552	·06	·08	45,543	4·68	6·98	419,813	3·60	64·38	Madras.
·13	·11	—	513	·10	·08	1,866	·36	·30	46,994	9·21	7·57	340,226	5·55	54·80	Bombay, Baroda, and Central India.
·030	·032	3,648	3,222	1·100	1·165	364	·058	·062	56,072	8·978	9·502	395,549	5·278	67·35	Scinde, Punjab, and Delhi.
0·10	·14	76	—	·03	·04	2	—	·01	12,272	4·73	6·48	101,633	3·26	53·27	South Indian.
·30	·23	—	405	·16	·13	73	·03	·02	25,367	11·05	8·38	140,868	5·33	46·55	Eastern Bengal.
—	—	—	51	·01	·01	415	·09	·12	34,922	7·49	10·23	218,102	3·90	63·04	Oude and Rohilkund.
															STATE.
·35	·63	—	—	—	—	8	·04	·09	1,201	6·83	2·21	10,688	5·06	108·63	Calcutta and South-eastern.
·09	·20	—	—	—	—	—	—	—	926	5·68	12·71	8,358	4·13	111·15	Nulhati.
—	—	—	—	—	—	—	—	—	629	30·41	9·88	4,479	18·03	70·3	Amraoti } Berar.
—	—	—	—	—	—	—	—	—	284	18·80	9·57	2,143	11·85	72·41	Kamgaun } Berar.
—	—	—	—	—	—	—	—	—	4,957	7·63	9·30	45,711	5·86	85·72	Nizam's.
—	—	—	—	—	—	—	—	—	257	12·43	13·37	2,275	9·21	118·87	Wurdha Valley.
—	—	—	61	·20	·03	—	—	—	1,927	6·56	10·7	12,320	3·49	67	Tirhoot.
—	—	—	45	·06	·09	—	—	—	6,362	8·60	12·97	35,689	4·02	75	Punjab, Northern.
—	—	—	204	·06	·09	—	—	—	23,102	7·27	9·76	152,320	3·99	64·38	Rajputana.
—	—	—	231	·40	·61	1	·00	·00	6,535	11·27	17·27	35,265	5·07	93·20	Holkar's.
—	—	—	—	—	—	—	—	—	361	7·72	15·99	1,453	2·59	64·38	Neemuch.
—	—	4,677	7,634	—	—	5,103	—	—	577,436	—	—	4,129,424	—	—	Totals for Railways.
												97,742	—	69·413	Indus Steam Flotilla.
												4,227,166	—	—	Totals for Railways and Flotilla.

* Exclusive of 90,207*l.* 1*s.* 5*d.* charged to special funds.

SUMMARY.

96. It now only remains for me briefly to recapitulate the principal facts given in the foregoing pages.

97. There are now open in India 6,937 miles of railway, of which 479 were completed during the year 1876. Of this length, 767 miles are laid with a double line, 5,748 are constructed on the 5 ft. 6 in. gauge, and 1,162 on the metre gauge. The most important additions made within the year are those of the South Indian Railway, between Madras and Tuticorin, and of the Punjab Northern line between Lahore and Jhelum. The works on the Northern Bengal and the Indus Valley have been advanced considerably, and it is expected that portions of these lines will be opened during the present year. The line from Rangoon to Prome is probably by this time open for traffic.

98. The total amount expended on the railways to the 31st March last as regards the Guaranteed lines, and to the 31st December as regards the State lines, was 109,364,867*l.*, of which 94,272,265*l.* consisted of guaranteed capital, and 15,092,602*l.* was raised by the Government for the State lines. During the year 1876 about 3,500,000*l.* was expended on the State, and 879,665*l.* on the Guaranteed lines.

99. The revenue derived from the railways during the year was 4,564,823*l.*, of which 4,451,422*l.* was earned by the Guaranteed Companies. The amount advanced for guaranteed interest to these Companies was 4,634,222*l.*, leaving a difference of 182,800*l.*, but 811,334*l.* of the revenue consisted of surplus profits from certain lines, half of which had consequently to be returned to the Companies.

100. The gross receipts were 8,793,982*l.*, and the working expenses 4,229,156*l.* The receipts from passengers amounted to 2,646,570*l.*, from goods 5,655,238*l.*, and from miscellaneous sources 483,232*l.*

101. Compared with the previous year, the revenue showed an improvement of 916,955*l.*, and instead of having to supply a net sum of 1,073,882*l.* for guaranteed interest, the Government had only to provide 588,467*l.*

102. The number of passengers carried was 30,535,319, with an average mileage open of 6,592 miles compared with 26,779,437 of the previous year, and a mileage of 6,298. The proportion per cent. of the first class was ·76, of the second 2·24, and of the lower classes 97. The amount of goods carried was 5,871,690 tons compared with 4,388,660 of 1875. The proportion per cent. of the gross revenue from passengers was 33·84, and from merchandise, including minerals, 66·16.

103. The expenses of maintaining and working the railways were 4,226,966*l.*, being 487,043*l.* more than the previous year, and 49·20 per cent. of the gross receipts. The East Indian Main line came to only 34 per cent., the Eastern Bengal 46·55, the Great Indian Peninsula 47, while the Scinde, Punjab, and Delhi were 67·35, the Madras 64·38, and the Oude and Rohilkund 63·94 per cent.

104. The lines have been well maintained, and the rolling stock and locomotives, to which considerable additions will have to be made, have been kept in good order.

105. A more liberal policy than hitherto is being pursued with regard to the management of the railways, and the traffic has been stimulated in consequence. Passengers are on some lines carried for less than a farthing a mile, and rates as low as a halfpenny per ton per mile have been charged, with good effect, for the carriage of grain, seeds, coal, and other staple products.

106. Concurrent with these measures for increasing traffic, well directed exertions have been made to ensure economical management. These double efforts have produced the satisfactory results just briefly stated, besides those other effects which a good example and a successful issue scarcely ever fail to bring.

107. The following figures, which are extracted from Mr. Rendel's tables, show the relative position of the different lines in respect of the unit of profit:—

AVERAGE Sums received, Cost and Profits per Passenger, and per Ton per Mile.

Railways.	Passengers.		Goods.		Profits.	
	Receipts.	Cost.	Receipts.	Cost.	Each Passenger per Mile.	One Ton of Goods per Mile.
	d.	*d.*	*d.*	*d.*	*d.*	*d.*
East Indian (Main) - - -	·383	·15	·895	·255	·233	·640
Jubbulpore Line - - -	·413	·18	·965	·41	·233	·555
Great Indian Peninsula - - -	·376	·224	1·115	·52	·152	·595
Madras - - - - -	·372	·196	1·135	·788	·176	·347
Bombay, Baroda, and Central India -	·359	·252	1·304	·575	·107	·729
Eastern Bengal - - - -	·376	·191	1·185	·47	·185	·715
Oudh and Rohilkund - - - -	·241	·111	·881	·612	·130	·269

108. The trade and traffic of the past and present year would seem to show that an important movement has set in, which will greatly improve the commercial relations of India with this country, and tend to the advantage of both. It would hardly have been thought possible twenty years ago that a granary for England would have been found in the valleys of the Ganges, Jumna, and Indus. Notwithstanding their distance from a sea-port, we have seen during the last two years a rapidly increasing production of grain and seeds in the provinces watered by those rivers, and a large export trade springing up. The demand has, no doubt, this year been enhanced by the wants of the famine-stricken districts of Southern India, but the significant fact still remains, that a considerable advance has been made in the export trade. In the year 1871 the exports of wheat and oil seeds were 248,522 cwt. and 3,382,447 cwt. respectively, of which 1,384,023 was sent to England. In 1876 the wheat exported amounted to 5,583,336 cwt., of which 4,337,208 came to this country, and the seeds to 5,614,817 cwt., of which 3,740,362 came to England. Five years ago the aggregate quantities of these articles carried on the different railways then open were 7,460,340 cwt. of grain, and 2,672,640 cwt. of seeds; last year they were 25,640,720 cwt., and 11,862,262 cwt., being a total of 37,502,982 cwt., or 1,875,149 tons. So long as the difference between the price in the English market and the united cost of production, inland transit, and freight, is such as to leave a sufficient margin for a fair profit to the grower and the merchant, Indian wheat will find its way to England, and it seems probable that, with the facilities now afforded, a steady trade will be established. Railways have been very instrumental in promoting this highly desirable movement, and it may be confidently expected that other products of the soil will, with increased advantages of conveyance and diminished cost of transport, find a European market. When the fibres of Russia were denied to us during the Crimean War, India stepped in and supplied us with jute, and has continued to do so, to an increasing extent, ever since. The same may now happen with respect to wheat, barley, &c. Other products will also appear in the market. A country with a soil and climate capable of producing corn, tea, and tobacco, as well as coffee, opium, sugar, indigo, and cotton, must possess powers which, with the assistance of regular and cheap transport, will be ready to meet any demand that may be made upon it.

I have the honour to remain,

My Lord Marquis,

Your Lordship's very obedient humble Servant,

JULAND DANVERS.

LONDON:
Printed by GEORGE E. EYRE and WILLIAM SPOTTISWOODE,
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For Her Majesty's Stationery Office.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1877-78.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
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1878.

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REPORT.

To the Right Honourable the VISCOUNT CRANBROOK.

MY LORD, India Office, June 1878.

I HAVE the honour to lay before your Lordship the following account of the present condition of the Indian Railway system, together with the results of working the open lines during the year 1877.

Progress.

2. The length of railway open for traffic has been increased by 717½ miles since the 1st January 1877. It now amounts to 7,551½ miles; 5,912¾ being on the 5 ft. 6 in. gauge, and 1,638¾* on narrower gauges. The additions made consist principally of 208¼ miles of the Northern Bengal Railway; 163 miles from Rangoon to Prome; the Chord Line (145 miles) between Dhond and Munmád, connecting the north-east and south-east branches of the Great Indian Peninsula Railway; and 132¾ miles of the South Indian, which will be open throughout on the completion of the Coleroon bridge. Then there has been the extension of the Wardha railway to Wurrora and a continuation of the line in Tirhut, and one or two minor works.

Northern Bengal Railway.

3. The Northern Bengal Railway was opened from Julpigoree, its northern terminus, to Atraie, a station on the river of that name, about 35 miles north of the Ganges, on the 20th August. The remainder was completed by the end of the year, and in January the whole main line between the foot of the hills and the Ganges was opened for traffic throughout, together with the 5 ft. 6 in. section on the south side of the river, which joins the Eastern Bengal Railway at Poradaha, and is worked by that Company. An extension of this line in a northerly direction towards Darjeeling is about to be undertaken. The Government of India, being fully satisfied that it should be taken as far as possible into this important tea-growing district, sanctioned its construction as far as Silligoree, which is 22 miles beyond Julpigoree. From the former place it is said that an easy and practicable line for a railway has been found to a point 11 miles further up. This may be undertaken hereafter. Tea and other products from Darjeeling, which now occupy 14 days in the journey to Calcutta, will, when these works are completed, be conveyed from one place to the other in almost as many hours.

Rangoon and Prome.

4. The line from Rangoon to Promè was opened in May 1877. It proceeds from the former place along the valley of the Irrawaddy, and will be extended 42 miles further to Allanmyo. Another line in the province of British Burmah is also in contemplation from Rangoon to Toungoo.

Dhond and Manmád.

5. The Dhond and Manmád line, which connects the two lines proceeding from Bombay towards Allahabad and Madras respectively, was commenced as a famine work in August 1877, and completed in April last. The two systems of Northern and Southern India are thus brought together, and the necessity for taking the traffic, down one ghat and up the other, from the Deccan to the Concan and back again, is avoided.

Indus Valley.

6. Operations have also been going on in various directions, and other lines are approaching completion. The Indus Valley Railway will, it is expected, be ready for traffic in the course of this year. There are some heavy works on it, including an important bridge of sixteen spans over the Sutlej at Adamwahan just opened. The course taken by this line will, it is apprehended, expose the embankments to the influence of inundations, and much watchfulness will probably be necessary to prevent damage to the works. The bridge over the Indus has not yet been commenced nor has its design been decided on.

Punjab Northern.

7. Progress has also been made on the Punjab Northern Railway between Jhelum and Ráwalpindi. From thence to Peshawur surveys are being carried on.

Western Rajputana.

8. With regard to what is called the Western Rajputana line, which is the portion south of Ajmere of the main direct line from Agra and Delhi to Bombay, it is expected that the first section, 35¾ miles in length, from Ajmere to Beáwar, will be opened this year. A further length of 81¾ miles is in course of construction, and 78 miles extending from Ahmedabad north is also in hand; but measures do not appear to have been yet taken for executing the middle section of 104 miles.

* Of these 1,638¾ miles, all are on the metre gauge, with the exception of the Nalhati Railway of 27½ miles, on a 4 feet, and the Baroda State Railway of 20 miles, on a 2 ft. 6 in. gauge.

Railway in Assam.

9. Other railway works are in contemplation, but have not yet been commenced. Among these is one 110 miles in length from Rungpore to Dhubri and Goálpára, in Assam, which will be the first railway introduced into that province; also a branch from Patna on the East Indian Railway to Gya, 58 miles in length, to be made as a provincial work. Branches from the Eastern Bengal Railway are likewise under consideration, viz., from Mymensing to Dacca, from Ranaghat *viâ* Santipore and Kishnagur to Berhampore and Moorshedabad, and from Ranaghat to Bongong and Jessore. An important line has also been proposed to connect the East Indian and the Eastern Bengal Railways by means of a bridge over the river at Hooghly, thus taking the East Indian into Calcutta, and bringing the coal fields of Bengal into railway communication with the eastern part of the Presidency. The further extension of the Pali branch of the Bombay, Baroda, and Central India Railway to Godra, 17 miles in length, is under consideration, and surveys have been made for a line from Patri, or from some point on the Wadwan branch, across the Run of Kutch, at Molia, where it is about six miles in width, to Bhuj, the capital of the province. In Kattywar also surveys have been made of several branch lines which were spoken of as famine works when scarcity was apprehended, but nothing has yet been determined with regard to their execution. A branch from the Bombay and Baroda Railway at Broach to Debejbarra or Jagaiswer, at the mouth of the Nerbudda, has also been surveyed, the object being to facilitate communication between Guzerat and Kattywar, and to work, by means of a ferry between Bhownuggar or Gogo and its terminus, the traffic that will be produced by the lines just mentioned. The distance is 30¼ miles, and the estimate of its cost 107,375*l.* a sum of 19,800*l.* being required for a jetty and landing place.

Branches to East Indian and Eastern Bengal Railways.

Branches to Bombay and Baroda Railway.

Nerbudda Bridge.

10. Much energy has been shown in carrying on the operations connected with the new bridge over the Nerbudda river. All the materials are on their way out to Bombay, and many of the piers have been fixed in their foundations. It is estimated that the bridge will cost 322,550*l.*

Railways in State of Baroda.

11. The Gaikwar of Baroda has decided to extend railway communication in his State by adding 35¼ miles to the 2 ft. 6 in. line which he has already constructed from Mirjágám (on the Bombay and Baroda Railway) to Dabhoi. The works will be executed by that Company.

Extensions of Oudh and Rohilkund.

12. The much desired extension of the Oudh and Rohilkund Railway from Moradabad to Saharunpoor or Muzaffarnagur, to complete communication with the Punjab, has not yet been finally settled; and all that has at present been considered with regard to the connection of the Oudh Railway with the East Indian at Benares is the establishment of a steam ferry to convey the traffic between the two. Borings have, however, been made in the bed of the river to ascertain the best site for a bridge, and a bed of stiff clay has been found at a depth of 80 feet below the low-water level of the river. The bed extended to a depth of about 25 feet, and then sand appeared. The extension line from the cantonments to the river bank is in hand, and will shortly be completed.

Works on East Indian during the year.

On the Great Indian Peninsula.

13. On the East Indian Railway the only work of importance which has been in progress during the year has been the remodelling of the Howrah terminus, enlarged accommodation having become greatly needed in consequence of the increased traffic. On the Great Indian Peninsula also the terminal station at Bombay has been at length fairly put in hand, and the workshops have been completed. Both these Companies, as well as others, have been obliged to increase their locomotive power and their stock of wagons to meet the traffic demands.

The projected line from Goa to Bellary.

14. I mentioned in my last Report that a project had been started for making a railway from the Portuguese harbour of Marmagoa to Beliary by way of Dharwar, Hooblee, Gudduck, and Copal, and the terms upon which the promoter, Mr. Frederick Campbell, proposed to undertake the construction and working of such portion of it as will extend beyond Portuguese territory. Certain concessions have since been made to Mr. Campbell, including the free grant of land, and the permission to obtain stone, limestone, and earth from any waste land at the disposal of Government; and a formal contract embodying these and other terms of an agreement will be entered into with Mr. Campbell, on the Secretary of State being satisfied, at any time within twelve months from the 27th April last, that a Joint Stock Company has been formed to carry out the scheme, and that sufficient capital for the purpose is forthcoming.

Pondicherry Railway.

15. Arrangements have just been concluded between the French Government and the Pondicherry Railway Company for taking a line of railway from the port of Pondicherry to Belper where it will join the South Indian main line.

16. The following table gives the length of each undertaking, and the extent now opened :—

	Railway.	Gauge.	Length of Line sanctioned.	Length opened during 1877, or since.	Total Length opened.	Portion laid with Double Line.	Length remaining to be finished.
Guaranteed.	East Indian — Main line*	5′ 6″	1,280	—	1,280	410¾	—
	East Indian — Jabalpur line	5′ 6″	223¾	—	223¾	—	—
	Great Indian Peninsula	5′ 6″	1,280½	—	1,280½	325	—
	Madras	5′ 6″	858	—	858	43	—
	Bombay, Baroda, and Central India	5′ 6″	421½	4¾	421½	23¼	—
	Sind, Punjab, and Delhi — Punjab and Delhi	5′ 6″	553¾	—	553¾	4½	—
	Sind, Punjab, and Delhi — Sind	5′ 6″	109¾	—	109¾	—	—
	South Indian	3′ 3⅜″	617	132¾†‡§	607	—	10
	Eastern Bengal	5′ 6″	159	—	159	—	—
	Oudh and Rohilkund	5′ 6″	712	—	543¾	—	168¼
State.	Calcutta and South-Eastern	5′ 6″	28	—	28	—	—
	Nalhati	4′ 0″	27½	—	27½	—	—
	Northern Bengal	3′ 3⅜″	241	208¼†	208¼	—	32¾
	Punjab Northern	5′ 6″	427¾	—	103	—	324¾
	Assam	3′ 3⅜″	110	—	—	—	110
	Indus Valley	5′ 6″	500¼	—	—	—	500¼
	Rajputana (Agra and Delhi to Nasirabad)	3′ 3⅜″	400	—	400	—	—
	Neemuch	3′ 3⅜″	303½	—	36½	—	267
	Holkar	3′ 3⅜″	86½	—	71	—	15½
	Patri branch of Bombay, Baroda, and Central India Railway	5′ 6″	22½	—	22½	—	—
	Wardha Valley	5′ 6″	46½	28½	46½	—	—
	Tirhut	3′ 3⅜″	364½	35¼	76½	—	288
	Tirhut	5 6	2¾		2¾		
	Rangoon and Irrawaddy Valley	3′ 3⅜″	205	163	163	—	42
	Rangoon and Sittang Valley	3′ 3⅜″	161¾	—	—	—	161¾
	Sindia (Agra to Gwalior)	5′ 6″	74¾	—	—	—	74¾
	Western Rajputana	3′ 3⅜″	221½	—	—	—	299½
	Western Rajputana	5′ 6″	78				
	Nagpur and Chattisgarh	3′ 3⅜″	123½	—	—	—	123½
	Dhond and Manmád	5′ 6″	145	145¶	145	—	—
	BERAR.						
	Khamgaon	5′ 6″	8	—	8	—	—
	Amraoti	5′ 6″	6	—	6	—	—
	NIZAM'S GOVERNMENT.						
	Wadi to Hyderabad and Secunderabad	5′ 6″	121	—	121	—	—
	BARODA STATE	2′ 6″	55¼	—	20	—	35¼
	PROVINCIAL.						
	Muttra and Hathras	3′ 3⅜″	29	—	29	—	—
	Patna-Gya	5′ 6″	58	—	—	—	58
	Totals		10,062¾	717½‖	7,551½	806½	2,511¼

* This includes the loop and the chord lines with their branches, 74½ miles in length. By the loop line the distance from Howrah to Delhi is 1,018¾ miles. By the chord line, the length of which is 186½ miles, the distance is 954½ miles.
† 74 miles opened in 1878.
‡ 114½ miles of this were included in the length given in the similar table in the last Report.
§ 6 miles opened in 1878.
‖ 225 miles opened in 1878.
¶ Opened in April 1878.

17. The following statement exhibits the annual progress made in the construction of railways since their commencement:—

Railways.	Length of Line open at the end of each Year.																				
	Up to 1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
East Indian Railway (including Jabalpur).	120½	120½	141	284⅝	367¾	560½	883¾	937	1,105¼	1,129½	1,139½	1,353	1,353	1,353	1,353	1,503¾	1,503¾	1,503¾	1,503¾	1,503¾	1,503¾	1,503¾
Great Indian Peninsula.	88½	88½	194½	245½	297½	437½	494½	553	585¾	701½	815½	852	875½	872½	1,237½	1,271½	1,277½	1,278¼	1,278¾	1,278¾	1,278¾	1,280½
Madras - -	65½	80½	95	95	136	227½	447	447	571	611	645	645	677½	707½	782½	831½	851½	857½	857½	856¾	856¾	858
Bombay, Baroda, & Central India.	—	—	—	—	35	132	185	185	305¾	305¾	305¾	305¾	305¾	307½	307½	340½	388	389½	400¾	408	417	421½
Sind - -	—	—	—	—	—	105½	105½	105½	105½	105½	108½	108½	108½	108½	108½	108½	105½	105½	105¼	105½	105½	102½
Punjab - -	—	—	—	—	—	—	32	45	45	253	253	246	246	246	553½	553½	553½	553½	558½	553½	553½	553½
Delhi - -	—	—	—	—	—	—	—	—	—	—	—	53	53	270								
South Indian -	—	—	—	—	—	49	79	79	79	79	127	144	168	168	168	168	168	168	185¾	283¾	580¾	601
Carnatic, now South Indian.	—	—	—	—	—	—	—	—	—	18¾	18½	18½	18¾	18¾	18¾	18¾	18½	18¾				
Eastern Bengal -	—	—	—	—	—	—	110	110	110	110	110	113¾	113½	112	112	156½	156½	158¾	163½	157¾	159	159
Oudh and Rohilkund.	—	—	—	—	—	—	—	—	—	—	—	42	42	42	42	42	294	455	539¾	542¾	544½	543¾
Calcutta & South-Eastern.	—	—	—	—	—	—	15	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
Northern Bengal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1341
Punjab Northern	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	62*	103	103
Nalhati - -	—	—	—	—	—	—	—	27½	27½	37½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½
Khamgaon - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	8	8	8	8	8	8	8
Amraoti - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	6	6	6	6	6	6
Rajputana -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92½	202	379¾	400	400
Holkar - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	57	70	71
Neemuch - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36½	36½
Patri - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22½	22½	22½	22½	22½
Wardha Valley -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18	18	18	40½
Tirhut - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55*	44	45	79½
Nizam's - -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121	121	121
Muttra & Hathras	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	29	29
Baroda State -	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20	20
Rangoon and Prome.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	163
Totals -	274½	289½	430½	624½	896½	1,581½	2,351½	2,516½	2,902½	3,368½	3,568	3,936½	4,016½	4,261	4,767	5,073	5,336½	5,572½	6,202	6,407½	6,947½	7,326½

*Temporary Line.

Flood damages.

18. Very little damage was inflicted on any of the lines by floods during the rains of last year; but as an illustration of how sudden and rapid are sometimes the changes produced on the surface of the land by heavy rainfall, it may be mentioned that in the course of one week, in the Madras Presidency, the traffic which was being busily conducted for famine purposes was checked by floods in the very places where drought had lasted for many months. On the South Indian Railway, the line was so damaged by the heavy rains that 11 miles were closed for a week. Injury was also done to the same line in many places by impetuous torrents rushing from breaches in tanks. In one instance seven tanks, placed one above the other, burst their embankments, and let out the water upon the railway.

19. In August, on the Eastern Bengal Railway, in consequence of the excessive and continuous rainfall during the previous week, several slips occurred in the embankments on the upper part of the line, near the Gorai Bridge, Pangsa, and Goalundo, and caused a temporary interruption of traffic.

20. On the Oudh and Rohilkund Railway it was found that the River Ganges at Rajghat had changed its course, and the main current, instead of continuing near the right bank, had moved to the left, by which four piers of the Allyghur bridge were threatened. This deviation has been attributed by the Chief Engineer of the railway to the accumulation of silt on the up stream side, caused by the weir of the Eastern Ganges Canal at Nurora, about three miles below the railway bridge, which impedes the movement of the silt; but I am not aware whether this theory has been confirmed by observation.

21. The floods in the Punjab rivers were last year unusually low. The dredger, which was supplied for the purpose of trying whether the existing channels could not be enlarged by excavation and the stream led away from where during the floods it would cause damage, had not arrived in sufficient time to make the trial last season.

Additional locomotive and rolling stock.

22. The large traffic which has come on the old established lines has made it necessary to increase the engine power and the rolling stock, and considerable numbers of locomotives and wagons have been despatched to India during the year.

Rolling stock for military purposes.

23. The question as to how railways may be best prepared for rendering the most effectual service in the movement of troops and military stores has continued to engage the attention of the authorities, and trucks have been designed which in future will be made alike applicable to military purposes and to the ordinary requirements of commerce. The despatch of Native troops to Europe in the course of the present year was greatly facilitated by the railways, and the officers of the Great Indian Peninsula, and of the Bombay, Baroda, and Central India Railways received the thanks of the Government for the prompt and punctual arrangements made by them for the conveyance of men and stores, and all the requisite material for the expedition.

Price of materials.

24. The prices of most railway materials have been exceptionally low during the past year. In previous times as much as 13*l.* 7*s.* has been paid for iron and 18*l.* 10*s.* for steel rails per ton. Recently, 5*l.* 7*s.* 6*d.* only was paid for steel rails, which is lower than the lowest price ever paid for iron. Other articles of iron have been low in proportion. Locomotives and machinery have likewise been cheaper than heretofore. The subjoined table gives the prices paid for iron and steel rails and for coal during the last ten years.

PRICES of Iron, Steel, and Coal, between the years 1869 and 1878.

——	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.
	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Highest price of iron rails	8 9 6	8 18 6	8 18 6	11 17 6	13 7 0	11 7 6	7 15 0	6 19 0	6 12 0	—
„ „ steel rails	10 2 3	—	11 7 6	17 0 0	18 10 0	15 9 8	11 15 0	11 0 0	8 5 0	6 8 6
„ „ coal	0 14 6	0 10 6	0 11 0	1 5 8	1 6 6	1 2 6	0 17 6	0 14 0	0 14 0	0 14 0
Lowest price of iron rails	6 17 6	6 15 0	7 4 0	10 17 6	11 11 0	8 2 9	7 12 0	6 14 6	5 15 0	—
„ „ steel rails	10 2 3	—	11 7 6	18 15 0	18 10 0	15 9 8	9 5 0	6 15 0	6 12 6	5 7 6
„ „ coal	0 9 0	0 9 10	0 10 0	0 10 9	0 19 6	0 14 6	0 13 0	0 9 9	0 8 9½	0 8 6

Personal services in connection with the Famine.

25. The famine which devastated the southern part of India again brought forth the great power of the railways to alleviate distress in the stricken districts. The effects upon the traffic will be shown further on in this Report. The usual energy and devotion has been exhibited by the Government and Railway Officers in meeting the extraordinary demands upon the resources of the lines, and the following fitting acknowledgment of the services of some of them was published by the Government of Bombay in the "Gazette":—

"Colonel H. F. Hancock, R.E., Consulting Engineer for Railways and Under Secretary to Government, afforded constant aid to Government in bringing the full power of the railways to bear upon the transport of food-grain to the distressed districts, and in devising, in concert with the Railway Company, the complicated measures needed for this most important object.

"To the Agents, Mr. LeMesurier and Mr. Barnett; to the Traffic Manager, Mr. Conder; to the Locomotive Superintendent, Mr. Jackson; and to the servants of all grades of the Great Indian Peninsula Railway, the Government and the country are under the greatest obligations for their unflagging exertions day and night, in the time of trouble, to carry the food-grain for the famishing people. The wear and tear of body and mind caused by such sore and long-sustained effort will be fully known only to those who witnessed it. The vast quantity of grain carried by this railway has been already stated. It is difficult to measure the value of the railway at such a time as this, or the magnitude of the calamity which, without it, must have supervened. If these events had happened before the construction of this railway, the misfortunes of the people and the responsibilities of Government would have been indefinitely aggravated."

The Government of India also conveyed to Mr. Ross, the Traffic Manager of the Sind, Punjab, and Delhi Railway, an expression of its appreciation of his services on the occasion.

26. The following tables exhibit the shipping operations in connection with the supply of materials (which this year includes a considerable number of locomotives) for the railways from this country :—

SHIPPING OPERATIONS, exclusive of Fuel, during 1877, on Account of Guaranteed and State Railways.

Railway.	Route.	*Number of Ships employed in 1877.	Number of Tons of Goods shipped in 1877.	Value of Goods shipped in 1877.	Amount paid for Freight and Insurance in 1877.	Average Rate of Freight and Insurance per Ton.
			Tons.	£	£	£ s. d.
East Indian	*vid* Suez Canal.	14	992	16,372	1,657	1 13 5
	vid Cape of Good Hope	39	22,507	171,821	17,849	0 15 10
Great Indian Peninsula	Canal	91	33,311	322,663	60,056	1 16 1
	Cape	—	—	—	—	—
Madras	Canal	53	19,192	208,798	35,697	1 17 2
	Cape	32	44,377	74,205	50,196	1 2 7
Bombay, Baroda, and Central India	Canal	33	4,623	44,852	5,002	1 11 9
	Cape	3	117	757	132	1 2 7
Sind, Punjab, and Delhi	Canal	17	2,927	27,158	4,463	1 10 6
	Cape	—	—	—	—	—
South Indian	Canal	23	1,944	36,628	3,963	2 0 9
	Cape	2	2,327	23,953	2,901	1 4 11
Eastern Bengal	Canal	6	755	10,202	1,231	1 12 7
	Cape	13	84		70	0 16 8
Oudh and Rohilkund	Canal	16	2,124	51,144	3,932	1 17 0
	Cape	3	555	9,983	363	0 13 1
State Railways	Canal	145	63,201	567,278	98,700	1 11 3
	Cape	49	19,796	207,848	17,141	0 17 4
Totals	-	—	218,832	1,773,662	303,353	—

* It is probable that these numbers include ships which have been employed by different Companies on the same voyage.

AMOUNT and COST of COAL and other FUEL sent out from this Country in 1877.

Railway Company.	Number of Tons supplied from England.			Total original Cost.			Sum paid for Freight and Insurance.	Average Cost of each Ton when bought in England.			Average Cost of each Ton delivered in India.		
	Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.		Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.
				£	£	£	£	£ s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian	—	—		All the fuel for this line is obtained in India.						—	—	—	—
Great Indian Peninsula	176,508	—	—	84,357	—	—	187,942	0 9 7	—	—	1 10 10	—	—
Madras	23,722	1,629	3,624	12,493	1,400	1,857	32,819	0 10 6	0 17 0	10 3	1 13 5	2 1 6	1 10 7
Bombay, Baroda, and Central India	22,878	133	—	32,747	266	—	—*	1 8 8	2 0 0	—	1 8 8	2 0 0†	—
Sind, Punjab, and Delhi	5,055	194	—	8,148	424	—	—*	1 12 3	2 3 8	—	1 12 3	2 3 8	—
South Indian	5,802	105	—	3,067	121	—	5,517	0 10 7	1 3 0	—	1 12 2	2 5 10	—
Eastern Bengal	—	—		All the fuel for these lines is obtained in India.						—	—	—	—
Oudh & Rohilkund	—	—								—	—	—	—
Totals	233,965	2,061	3,624	140,812	2,211	1,857	226,278	—	—	—	—	—	—

* Included in original cost.

† Excluding inspection (where incurred) and landing charges at Madras.

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.§	Number of Ships lost.	Number of Tons of Goods shipped.	Amount paid in England for Goods shipped.
				£
Up to end of 1860	2,605	39	2,094,686	10,431,976
In 1861	407	—	181,621	1,669,443
„ 1862	280	1	138,013	1,487,582
„ 1863	279	2	166,840	1,285,464
„ 1864	233	—	102,318	1,018,164
„ 1865	442	2	199,157	1,729,543
„ 1866	581	7	312,227	2,527,757
„ 1867	512	5	333,329	3,052,652
„ 1868	364	3	188,858	1,849,554
„ 1869	455	1	211,750	1,432,784
„ 1870	461	1	263,449	1,688,209
„ 1871	307	6	168,049	707,765
„ 1872	318	1	66,534	655,822
„ 1873	404	2	201,590	1,561,602
„ 1874	426	5	265,114	2,042,136
„ 1875	421	—	288,186	1,518,991
„ 1876	587	—	296 801	680,929
„ 1877	539*	5†	458,482‡	1,918,539
Totals		80	5,937,004	37,258,912

* Exclusive of ships conveying coal and fuel. † All conveying stores for the Great Indian Peninsula Railway.
‡ Includes coal and fuel tonnage.
§ These numbers probably include ships which have been employed by two Companies at the same time.

27. The following table relates to the number of persons who hold investments in Indian railways. There is no material alteration since last year. Out of the 96,312,967*l.* raised, 1,382,684*l.* is held in India :—

Railway.	Number of Shareholders on 31st December 1877.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1877.
	Registered in England.			In India.					
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.	Bonds.	Stock.	
East Indian	7,301	9,039	16,340	78	140	218	176	874	17,608
Great Indian Peninsula	5,718	7,797	13,515	68	113	181	39	1,546	15,281
Madras	3,127	4,352	7,479	—	—	—	263	—	7,742
Bombay, Baroda, and Central India	2,469	3,903	6,372	8	38	46	23	—	6,441
Sind, Punjab, and Delhi	3,275	5,643	8,918	46	11	57	—	—	8,975
South Indian	959	1,454	2,413	No register in India.			41	147	2,601
Eastern Bengal	687	1,016	1,703	14	21	35	31	213	1,982
Oudh and Rohilkund	1,107	1,444	2,551	40	23	63	—*	148	2,762
Totals	24,643	34,648	59,291	254	346	600	573	2,928	63,392

* Not known. Bonds to bearer.

28. The following shows the additions made to the rolling stock during the year :—

NUMBER of LOCOMOTIVES and VEHICLES owned by the INDIAN RAILWAY COMPANIES.

Railway Company.	Locomotives.			Passenger Carriages.		Goods Trucks and Wagons.		Total Number of Vehicles on 31st December 1877.
	Former Number.	Added or Withdrawn in 1877.	Total Number, 31st Dec. 1877.	Former Number.	Added or Deducted in 1877.	Former Number.	Added or Deducted in 1877.	
East Indian	511	*−4	507	982	—	6,701	—	7,683
Great Indian Peninsula	345	+10	355	1,314	—	6,679	—	7,993
Madras	128	+22	150	391	—	3,205	+18	3,614
Bombay, Baroda, and Central India	80	−3	77	295	—	2,708	−64	2,939
Sind, Punjab, and Delhi	156	−5	151	534	−17	2,927	+42	3,486
South Indian	93	+4	97	342	+24	1,333	+310	2,009
Eastern Bengal	43	—	43	169	+11	701	−10	871
Oudh and Rohilkund	69	+19	88	322	+9	1,494	+750	2,575
State Lines	†94	+68	162	†342	+176	†2,081	+388	†2,987
Totals	1,519	+111	1,630	4,691	+203	27,829	+1,434	34,157

* Condemned. † Approximate.

NUMERICAL RETURN of all Races employed on open Lines of Railways and on the Steam Flotilla on the 30th September 1877.

Railways.	General Administration, including Agency, Audit, Account, Paymasters, Stores, Medical, Barrack, Printing, Stationery, and Police Establishment.				Traffic and Telegraph Departments.				Engineers' Department.				Locomotive and Carriage and Wagon Departments, including Steamboat Establishment.				Total.				Number of Miles Open.	Number of Stations.	Remarks.
	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.			
East Indian	73	32	3,059	3,164	319	238	10,579	11,136	88	16	13,075	13,179	532	231	10,070	11,433	1,012	517	37,383	38,912	1,503¾	155	
Eastern Bengal	14	—	710	724	64	36	2,833	2,933	12	3	*1,345	1,360	52	27	1,174	1,253	142	66	6,062	6,270	159	32	* Of this, 173 extra for miscellaneous works.
Steamboat Establishment on ditto.	—	—	—	—	—	—	—	—	—	—	—	—	13	—	423	436	13	—	423	436	—	—	
Oudh and Rohilkund	29	30	530	589	45	11	1,157	1,213	20	8	2,669	2,697	120	38	2,238	2,396	214	87	6,594	6,895	543¾	80	
Punjab and Delhi	54	13	616	683	121	31	1,896	2,048	25	6	3,048	3,079	142	42	3,117	3,301	342	92	8,677	9,111	553¾	59	
Sind	3	8	136	147	10	28	190	228	4	2	523	529	17	42	478	537	34	80	1,327	1,441	109¾	9	
Indus Steam Flotilla	—	6	84	90	30	20	893	943	—	—	—	—	25	29	408	462	55	55	1,385	1,495	—	—	
Rajputana (State)	25	16	356	397	29	27	684	740	20	2	2,596	2,618	75	47	1,065	1,181	149	86	4,701	4,936	400	48	
Holkar and Neemuch („)	10	—	83	93	6	10	172	188	3	5	374	382	14	6	238	258	33	21	867	921	107½	15	
Punjab Northern („)	6	2	39	47(a)	13	14	350	377	4	—	357	361	24	4	438	466	47	20	1,184	1,251	103	20(b)	(a.) Stores and Medical Establishments which are under the orders of the Engineer-in-Chief, not included, nor the Civil Surgeons at Lahore and Jhelum who are in medical charge.
Rangoon and Irrawaddy Valley. („)	9	22	40	71	(c)	(c)	(c)	(c)	34	15	1,704	1,753	32	25	119	176	75	62	1,863	2,000	163	18	
Madras	14	47	514	575	50	461	2,112	2,623	31	102	4,983	5,116	227	568	4,098	4,893	322	1,178	11,707	13,207	858	95	
South Indian	7	27	193	227	6	66	1,224	1,296	25	47	3,117	3,189	72	152	1,449	1,673	110	292	5,983	6,385	601	84	(b.) Including 7 flag or road-side stations.
Great Indian Peninsula	36	33	1,101	1,170	326	227	5,140	5,693	71	33	13,370	13,474	437	190	8,144	8,771	870	483	27,755	29,108	1,436†	151	(c.) Not furnished by the Chief Commissioner, British Burmah.
Bombay, Baroda, and Central India.	15	30	674	719	14	50	1,626	1,690	20	2	2,144	2,166	67	161	1,334	1,562	116	243	5,778	6,137	444‡	80	† Includes the mileage of the four State lines worked by this Company.
Calcutta and South-Eastern (State).	2	—	23	25	—	—	62	62	—	1	106	107	1	1	66	68	3	2	257	262	28	8	
Nalhati (State)	1	—	6	7	—	—	32	32	—	—	70	70	1	—	61	62	2	—	169	171	27½	7	‡ Includes Patri Branch.
Tirhut („)	8	4	47	59	3	5	145	153	9	2	363	374	8	1	148	157	28	12	703	743	76	11	
Steamboat Establishment on ditto.	—	—	—	—	—	—	—	—	—	—	—	—	2	3	58	63	2	3	58	63	—	—	
Northern Bengal (State)	3	1	46	50	8	9	244	261	14	4	1,787	1,805	13	6	161	180	38	20	2,238	2,296	134½	14	
Railways under the control of the Government of India.	223	129	5,653	6,005	637	415	18,754	19,806	210	57	25,691	25,958	1,046	485	20,368	21,899	2,116	1,086	70,466	73,668	3,643	436	
Ditto ditto Madras	21	74	707	802	56	527	3,336	3,919	56	149	8,100	8,305	299	720	5,547	6,566	432	1,470	17,690	19,592	1,469	179	
Ditto ditto Bombay	51	63	1,775	1,889	340	277	6,766	7,383	91	35	15,514	15,640	504	351	9,478	10,333	986	726	33,533	35,245	1,890	231	
Ditto ditto Bengal	14	5	122	141	11	14	483	508	23	7	2,326	2,356	25	11	494	530	73	37	3,425	3,535	266¾	40	
Total Indian Railways	309	271	8,257	8,837	1,044	1,233	29,339	31,616	380	248	51,631	52,259	1,874	1,567	35,887	39,328	3,607	3,319	125,114	132,040	7,343½	886	

PERSONS EMPLOYED.

Numbers employed.

29. By the return prepared in India, and given in the preceding page, it appears that out of a total of 132,040 persons employed on 7,248½ miles of railway on the 30th September last, 3,607 were Europeans, 3,319 were East Indians, and 125,114 were Natives. The number has increased during the year from 107,036 to 132,040. The length of line on which these were employed has increased from 6,624 to 7,248½, and the number of stations from 784 to 886. In 1876 the number employed per mile was 16, and per station 136, and there was one to 201 train miles; in 1877 these numbers were 18 per mile, and 149 per station, and one to 210 train miles. The Europeans increased from 3,032 to 3,607, the East Indians from 2,750 to 3,319, and the Natives from 101,254 to 125,114. The Europeans by the last return formed 2·75, and the East Indians 2·51 per cent. of the whole. In the previous year they were 2·83 and 2·71 respectively.

Proportion of Europeans to Natives.

30. It might have been expected that the large addition to the locomotive stock would have increased the proportion of European servants by the necessary addition of drivers, but while the European artificers in the Locomotive Department have been augmented from 1,539 to 1,874, the Native element has increased in greater proportions, from 27,766 to 35,887. Few of these latter are drivers, but the workshops are filled with them, and many are valuable in performing skilled labour. As drivers and shunters Natives are also more generally employed than they were. From all sides accounts are received of their sturdiness, steadiness, and regularity, as well as of the economy effected by their employment.

Volunteer Corps.

31. The Volunteer Corps formed of the European and East Indian officers and servants of the railways are flourishing, and will constitute important local forces. The corps belonging to the East Indian Railway was reviewed by His Excellency the Viceroy early this year, and pronounced to be one of the finest regiments in the British service. Those in Bombay, composed of the officers and men of the Great Indian Peninsula and Bombay and Baroda Railways respectively, were also highly commended by the Inspecting General.

Children of Europeans and Eurasians connected with the railways.

32. In my last Report I alluded to the subject of establishing schools on the hills for the children of the Europeans and Eurasians employed on the railways. I endeavoured to point out the importance of training those children in a manner which would give them the best opportunity of becoming good citizens in the land of their adoption, and in view of that object suggested that, after infancy, they should be brought up in a more suitable climate than that found in the plains, and there receive the advantage of school instruction and discipline. I was not then aware that the question had already attracted so much of the attention of the authorities in India as it has done. I do not find that any systematic arrangement has been made to meet the requirements of the case, certainly so far as the children of railway servants are concerned; but I do find that in Lord Canning's time the neglected condition of European and Eurasian children attracted the notice of Bishop Cotton, and that more recently Lord Northbrook has expressed a great interest in their well-being. So far back as October 1860 Lord Canning thus wrote:—

"If measures for educating these children are not promptly and vigorously en-
"couraged and aided by the Government, we shall soon find ourselves embarrassed in
"all large towns and stations with a floating population of Indianized English loosely
"brought up, and exhibiting most of the worst qualities of both races; whilst the
"European population, already so numerous that the means of education offered to it
"are quite inadequate, will increase more rapidly than ever.

"I can hardly imagine a more profitless, unmanageable community than one so
"composed. It might be long before it would grow to be what could be called a class
"dangerous to the State; but a very few years will make it, if neglected, a glaring
"reproach to the Government, and to the faith which it will, however ignorant and
"vicious, nominally profess. On the other hand, if cared for betimes, it will become
"a source of strength to British rule, and of usefulness to India."

33. If prompt and vigorous measures were required then, how much more are they required now, when the numbers have increased and are increasing? I do not apprehend that there is any difference of opinion as to the expediency and necessity of moving in the matter at once. The Directors of all the Indian Railway Companies in this country have expressed real interest in the question, and have invited their managers in India to consider the best mode of attaining the object in view. The means are forthcoming, and all that is required is an agreement as to the steps to be taken, to be followed by proper organization.

34. A start has indeed already been made. The Sind, Punjab, and Delhi Railway Company has commenced with a small school at Mussoorie, which provides for 28 children. More accommodation is wanted, and the managers are ready to join with others in forming a general scheme for the education of children whose parents are unable to send them to Europe. Combination is desirable for many reasons, but the East Indian Railway officers seem to think that there is a sufficient number of children connected with the line to justify the establishment of a separate school of their own. Up to this time the only Hill school available for the children of the East Indian Railway is one at Nyni Tal, where a few have been educated. Mussoorie seems to be the station now preferred. The site is about 5,000 feet up the Hill, and in every way eligible. Mr. Pearce, the Carriage and Wagon Superintendent on the East Indian Railway, who, as chairman of the Committee for East Indian Railway aided schools, has watched the effects of the work of education as hitherto conducted, is of opinion that, while the existing schools are doing good service, "there can be no question of "the great benefit that will be derived, both mentally and physically," by the children of the Company's employés from the establishment of schools on the Hills. Mrs. David Ross, the manager of the Mussoorie school for the Punjab line, in her report of January last, states that the children there have shown in a short time a "marked "improvement both physically and morally," and that there has been no sickness whatever. Mr. Stone, the Acting Agent and Chief Engineer, who visited the school subsequently, describes the children as "the picture of health compared to the children "in the plains." The expenses in this case have at present been met by fees from pupils, and a grant from the fine fund of the Railway Company. To give an idea of the expense of maintaining an establishment of this kind, I may mention that Mrs. Ross gives Rs. 4. 2 as the cost of feeding, and Rs. 12. 3 for the other charges per pupil per month. There are now only 28 children at the establishment. The cost per head at Darjeeling, where it is proposed that the children from Lower Bengal should go, is estimated at Rs. 25.

35. In Southern India, where perhaps the climate renders the matter one of greater importance even than in the higher latitudes of the country, there appears to have been no adequate provision yet made for the education of the European children. The Rev. James Sharp, the railway chaplain, reports, as recently as December last, that there is an "utter dearth of the means of education" for the children connected with the North-West line of the Madras Railway, and on the South-West line the provision is very imperfect, consisting, with the exception of the higher land of Bangalore, of schools in the plains. This state of things exists within reach of the bracing climate of the Neilgherri Hills, where one of the Lawrence Asylums can testify to its suitability for European born children.

36. I have been endeavouring to obtain a return of the number of children belonging to the servants of the various Railway Companies, distinguishing Europeans from Eurasians. The following table gives the result, imperfect as it is :—

Railway Company.	Europeans.	Eurasians.	Total.
East Indian - -	982	784	1,766
Eastern Bengal - -	93	29	122
Punjab and Delhi -	240	81	321
Sind - - -	67	84	151
Great Indian Peninsula -	479	372	851
Madras - -	—	—	263
South Indian - -	32	156	188

CAPITAL.

37. The total amount of capital which had been expended on guaranteed lines up to the end of March last was 95,482,941*l.*, and on State lines, up to the end of October 1877 (the date of the latest advices), 17,661,600*l.* The actual sum expended on Indian Railways for which returns have been received was thus 113,144,541*l.* Adding 300,000*l.* as the estimated expenditure on State lines during the months of November and December, and deducting 100,000*l.* for the three months' outlay on guaranteed lines for this year, the total amount of capital laid out on Indian Railways to the end of the year 1877 would be 113,344,541*l.*

38. During the year 1877-78 the amount of capital expenditure on guaranteed lines was 1,374,882*l.*, and on State lines, to end of October, 3,122,051*l.*, making a total expenditure of 4,496,933*l.*

39. The additional amount raised by the Companies was 1,479,838*l.* Debentures also to the amount of 1,279,850*l.* were issued at 4 per cent. interest, in place of 1,096,400*l.* 4¼ per cent. and 183,450*l.* 4½ per cent. debentures, which were paid off, thus effecting a saving of 3,660*l.* per annum for interest. Calls were made upon unpaid shares, which increased the share capital by 96,427*l.*, and 6,209*l.* was added to the amount of capital not bearing interest.

40. The total amount of capital which had been raised by the various Companies, under the guarantee, now amounts to 96,312,967*l.*, of which,—

£				
82,731,259	consists of	share capital raised at	5	per cent.
1,239,682	,,	,, ,, ,,	4¾	,,
500,000	,,	,, ,, ,,	4½	,,
1,000,000	,,	debentures ,,	4¼	,,
5,171,450	,,	,, ,,	4	,,
1,925,000	,,	debenture stock ,,	4½	,,
3,497,458	,,	,, ,, ,,	4	,,
248,118*	,,	capital not bearing interest.		

41. The chief expenditure of guaranteed capital has been more for the purpose of meeting the demands of increased traffic on existing lines and improving their accommodation than for extending their length. In certain places lines have been doubled, station premises have been enlarged, and additional locomotive and rolling stock has been provided. The South Indian is the only line on which the open length has been materially increased.

42. The expenditure on the State Railways has on the other hand been incurred in constructing and completing new works. A sum of 1,194,126*l.* was expended on the Indus Valley line, and 322,905*l.* on the Punjab Northern. The Northern Bengal absorbed 410,103*l.*, and the Rangoon and Irrawaddy 363,718*l.*

43. It is not unlikely that in the ensuing year the capital of some of the guaranteed Companies will be reduced permanently by the transfer to Revenue of sums representing stores in excess of what will be required as the future stock in hand. All such stores are paid for in the first instance by Capital, and are debited to Revenue as issued for Revenue purposes. The value of stores in hand at the end of the year was about 3,500,000*l.* Deducting this amount from the capital expended, the average mileage cost of the guaranteed railways is 15,246*l.* The average mileage cost of the State lines up to the present time is 11,921*l.*

44. The following tables, prepared in the Accounts Department of this Office furnish particulars connected with the Capital transactions of each undertaking:—

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* The difference between this amount and that given in the Table on page 15 is thus explained:—

Premium on share capital and debentures			£568,646
Discount on debenture stock:			
Stock represented as shown above	£5,422,458		
Cash received (page 15)	5,129,878		
		292,580	
Discount on debentures:			
Amount of debt shown above	£6,171,450		
Cash received (page 15)	6,143,502		
		27,948	
			320,528
			£248,118

STATEMENT No. 1.

STATEMENT of EXPENDITURE in ENGLAND and INDIA on INDIAN STATE RAILWAYS, appropriated to the various Undertakings as shown in Statements to 31st October 1877 (the latest date to which such Statements have been received from India).

State Railway.	Expenditure appropriated.			Classification of Expenditure.											
	England.	India.	TOTAL.	Preliminary Expenses.	Land.	Construction of Line.	Ballast and Permanent Way.	Stations and Buildings.	Electric Telegraph.	Plant.	Rolling Stock.	Maintenance.	Establishment.	Contingencies.	Suspense Accounts.	Receipts on Capital Account.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Punjab, Northern	594,937	1,976,852	2,571,789	107,715	24,349	1,140,564	504,379	92,861	—	110,483	89,527	—	360,916	—	148,986	*7,991*
Indus Valley	912,987	3,483,070	4,396,057	110,828	14,793	1,602,936	1,108,868	175,026	—	115,866	216,521	271	520,876	—	537,403	*6,831*
Hubli and Carwar	2,502	52,873	55,375	55,375	—	—	—	—	—	—	—	—	—	—	—	—
Wardha Valley, Coal	55,184	414,265	469,449	9,164	345	152,438	202,311	32,532	—	17,351	302	—	41,910	—	13,656	*560*
Holkar	320,541	929,317	1,249,858	21,699	4,619	577,387	221,402	89,184	—	29,668	109,420	—	127,793	—	72,527	*3,841*
Neemuch	314,531	536,167	850,698	63,926	289	138,935	199,399	38,836	—	17,989	22,165	—	83,827	—	236,447	*1,115*
Rajputana	329,706	1,857,521	2,687,227	52,164	47,766	597,608	982,680	304,276	—	39,285	320,104	—	181,755	—	164,019	*2,430*
Western Rajputana	—	65,940	65,940	57,154	9	4,997	219	360	—	13	—	—	2,087	—	1,139	*38*
Nalhati	30,000	—	30,000	—	—	*30,000	—	—	—	—	—	—	—	—	—	—
Calcutta and South-Eastern	268,424	422,400	690,824	6,769	108,507	104,596	155,774	57,164	3,693	8,270	122,481	—	86,773	18,766	18,031	—
Northern Bengal	379,636	973,932	1,353,568	10,417	45,653	395,675	444,738	57,075	—	44,257	53,093	—	169,397	—	136,389	*3,726*
Sindia	71,459	246,122	317,581	26,651	577	109,408	78,037	13,673	—	500	128	—	20,124	—	68,817	*334*
Nagpur and Chattisgarh	—	19,548	19,548	19,544	4	—	—	—	—	—	—	—	—	—	20	*20*
Tirhut	153,725	330,046	488,771	920	4,390	81,511	132,983	57,069	—	18,546	44,506	—	50,272	—	48,992	*418*
Rangoon and Irrawaddy Valley	200,281	790,760	991,041	2,207	13,433	194,265	402,890	105,940	—	24,280	32,184	—	79,154	—	137,310	*622*
Rangoon and Sittang Valley	—	15,800	15,800	15,810	—	—	—	—	—	—	—	—	—	—	—	*10*
Moradabad, Deobund, and Roorkee	—	2,852	2,852	52	—	—	—	—	—	34	—	—	2,616	150	—	—
Kosi Extension	—	5,358	5,358	5,358	—	—	—	—	—	—	—	—	—	—	—	—
Assam Extension	—	8,749	8,749	8,727	—	—	—	—	—	—	—	—	—	—	35	*13*
Seeb Sagur, Coal	—	3,400	3,400	3,397	—	—	—	—	—	—	—	—	—	—	18	*15*
Dhond and Munmád	—	5,490	5,490	5,490	—	—	—	—	—	—	—	—	—	—	—	—
Patna and Gya	—	155	155	155	—	—	—	—	—	—	—	—	—	—	—	—
Hathras and Muthra Section, Light Provincial Railway.	—	104,596	104,596	93	1,536	3,466	53,708	12,205	—	697	20,277	—	7,182	—	5,437	*5*
Hathras and Kasganj, ditto, ditto	—	61	61	61	—	—	—	—	—	—	—	—	—	—	—	—
Cawnpore and Furruckabad, ditto, ditto	—	1,162	1,162	1,162	—	—	—	—	—	—	—	—	—	—	—	—
Dildarnagar and Ghazipur Branch, ditto, ditto.	—	2,461	2,461	41	4	1,954	30	49	—	—	—	—	383	—	—	—
NATIVE STATES.																
Nizam's	145,219	1,024,683	1,169,902	14,545	—	404,855	474,889	124,064	—	15,293	9,163	—	106,645	—	25,880	*5,432*
Khamgaon Branch	—	48,530	48,530	37	39	10,921	29,323	4,638	125	343	32	—	2,838	234	—	—
Amraoti Branch	13,316	30,418	43,734	112	245	9,418	25,259	4,344	110	302	15	—	3,806	123	—	—
Mysore	—	11,624	11,624	550	—	—	—	—	—	831	—	—	9,994	249	—	—
Totals	4,297,448	13,364,152	17,661,600	600,123	266,558	5,610,934	5,066,389	1,169,296	3,928	444,008	1,040,518	271	1,858,348	19,522	1,615,106	*33,401*

* This amount was paid to the Oudh and Rohilkund Railway Company for purchase of the Line.

Note.—The total expenditure in England on State Railways to 31st October 1877 amounted to 4,783,356*l.* The above figures represent only that portion of such expenditure which had been appropriated in India to the several undertakings to the date of the last advices received.

India Office, 20th June 1878.

THOS. W. KEITH,
Accountant.

Statement No. 2.

Showing the Amount of Capital authorized to be raised for each Undertaking as now sanctioned, the Amount raised, and the Amount withdrawn, to 31st March 1878.

Railway	Amount authorized to be raised on 31st March 1878.					Amount raised in England to 31st March 1878.						Amount raised in India to Date of last Advices.		Total Amount raised to 31st March 1878.	Total Amount withdrawn to 31st March 1878 (partly estimated).
							Debentures.		Debenture Stock.						
	Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	Total.	Share Capital.	Amount of Debentures.	Cash received.	Stock represented.	Cash received.	Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.		
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
East Indian—Main Line - -	22,992,960	2,950,000	1,500,000	171,758	27,614,718	22,616,113	*2,950,000*	2,930,802	*1,500,000*	1,500,000	170,420	326,325	1,338	27,544,998	27,277,726
,, Jabalpur Line - -	3,200,000	—	—	43,249	3,243,249	3,189,350	—	—	—	—	43,249	7,665	—	3,240,264	3,398,513
Great Indian Peninsula - -	20,000,000	568,800	3,065,300	229,602	23,863,702	19,483,953	*268,800*	268,800	*2,701,450*	2,475,559	228,860	496,441	742	22,954,355	23,069,970
Madras - - -	10,264,100	400,000	—	9,898	10,673,998	10,256,689	*200,000*	200,000	—	—	9,898	—	—	10,466,587	10,530,855
Bombay, Baroda, and Central India	7,550,300	575,000	—	35,387	8,160,687	7,528,628	*575,000*	571,250	—	—	35,387	21,672	—	8,156,937	7,809,549
Sind, Punjab, and Delhi - -	11,418,900	—	—	4,403	11,423,303	10,988,984	—	—	—	—	4,336	86,253	67	11,079,640	10,533,047
Eastern Bengal - - -	2,255,520	462,350	411,308	2,288	3,131,466	2,238,996	*462,350*	462,350	*411,308*	374,730	2,288	16,486	—	3,094,850	3,108,464
Oudh and Rohilkund - -	4,000,000	1,615,300	384,700	8,292	6,008,292	3,575,581	*1,313,300*	1,315,300	*384,700*	354,589	8,292	424,419	—	5,678,181	5,754,485
South Indian - - -	3,213,386	400,000	425,000	63,769	4,102,155	3,212,165	*400,000*	395,000	*425,000*	425,000	63,714	1,221	55	4,097,155	4,000,332
Totals - -	84,895,166	6,971,450	5,786,308	568,646	98,221,570	83,090,459	*6,171,450*	6,143,502	*5,422,458*	5,129,878	566,444	1,380,482	2,202	96,312,967	95,482,941

India Office, 4th April 1878.

Thos. W. Keith,
Accountant.

STATEMENT No. 3.

SHOWING the AMOUNT received from and withdrawn by each Company during the Year ended 31st March 1878.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1877.	Sums advanced to the Companies on the 31st March 1877.	Amount received						Amount withdrawn					Total received during the Year ended 31st March 1878.	Total withdrawn during the Year ended 31st March 1878.
			In England, between 1st April 1877 and 31st March 1878.				In India, between 1st April 1877 and the Date to which Accounts have been received.		In England, between 1st April 1877 and 31st March 1878.		In India.				
			Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.	On account of Stores, Establishment Charges, &c.	For Discharge of Debentures.	Date to which Accounts have been received.	Amount.	Estimated Withdrawals between Dates specified and 31st March 1878.		
	£	£	£	£	£	£	£	£	£	£		£	£	£	£
East Indian, Main Line.	160,266	—	309	998,302	—	1,269	—	—	298,189	787,350*	30th November 1877	*22,665*†	*170,000*‡	999,880	892,874
East Indian, Jabalpur Line.	—	160,523	—	—	—	—	—	—	—	—	,,	*274*†	*2,000*‡	—	*2,274*
Great Indian Peninsula.	103,306	—	59,138	—	—	—	312	—	650,781	—	,,	*27,410*†	*345,000*‡	59,450	278,371
Madras - -	182,624	—	9,018	200,000	—	—	—	—	458,431	—	,,	47,479	*50,000*‡	209,018	455,910
Bombay, Baroda, and Central India.	8,142	—	—	371,250	—	—	—	—	97,200	—	,,	14,804	*80,000*‡	371,250	32,004
Sind, Punjab, and Delhi.	556,230	—	—	—	—	—	—	—	59,044	—	,,	*4,407*†	*45,000*‡	—	9,637
Eastern Bengal -	537	—	—	—	—	—	—	—	28,616	—	,,	5,535	*20,000*‡	—	14,151
Oudh and Rohilkund	—	40,396	—	200,000	—	4,940	—	—	83,942	—	,,	66,906	90,000	204,940	240,848
South Indian -	—	85,116	27,650	395,000	—	—	—		116,278	—	,,	104,433	20,000	422,650	240,711
Totals -	1,011,105	286,035	96,115	2,164,552	—	6,209	312	—	1,792,481	787,350	—	184,401	*602,000*‡	2,267,188	2,162,282

* Including a sum of 7,500*l.* paid as Discount on the renewal of 500,000*l.* 4½ per cent Debentures at 4 per cent.

† Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amounts withdrawn in India on Capital Account during the year.

‡ It is estimated that, on receipt of advices from India regarding transfers, which are several months in arrear of cash transactions, transfers of expenditure to Revenue Account, &c., will have exceeded the withdrawals to this extent.

India Office, 4th April 1878.

THOS. W. KEITH,
Accountant.

STATE of DEBENTURE LOANS on the 31st March 1878.

Railway.	Amount.		Rate of Interest	Date at which Loan expires.
	£	£		
East Indian	1,000,000		4½	1st January 1881.
"	1,279,850		4	12th July 1882.
"	230,150		4	1st December 1883.
"	440,000		4	19th March 1883.
		2,950,000		
Great Indian Peninsula	268,800		4	30th June 1878.
		268,800		
Madras	200,000		4	30th June 1882.
		200,000		
Bombay, Baroda, and Central India	200,000		4	1st January 1882.
" " "	375,000		4	1st August 1884.
		575,000		
Eastern Bengal	52,650		4	1st November 1884.
"	409,700		4	12th July 1886.
		462,350		
Oudh and Rohilkund	615,300		4	4th June 1880.
" "	500,000		4	1st August 1881.
" "	200,000		4	16th August 1884.
		1,315,300		
South Indian	400,000		4	1st July 1884.
		400,000		
Total		6,171,450		

India Office, 4th April 1878. THOS. W. KEITH, Accountant.

STATEMENT of WITHDRAWALS out of CAPITAL for EXPENDITURE; showing the Amount withdrawn in England and in India by all the Guaranteed Indian Railway Companies during each Financial Year from the commencement to 31st March 1878.

Year.	England.	India.	Total..
	£	£	£
1849–50	69,211	6,682	75,893
1850–51	61,164	38,099	99,263
1851–52	154,212	197,111	351,323
1852–53	174,920	252,640	427,560
1853–54	252,484	418,165	670,649
1854–55	960,878	769,278	1,730,156
1855–56	1,935,074	1,431,337	3,366,411
1856–57	1,752,813	1,762,287	3,515,100
1857–58	1,328,243	2,094,825	3,423,068
1858–59	1,941,033	3,551,075	5,492,108
1859–60	2,508,668	4,662,796	7,171,464
1860–61	2,388,315	5,190,400	7,578,715
1861–62	1,597,430	5,004,782	6,602,212
1862–63	1,852,393	4,010,951	5,863,344
1863–64	1,415,146	3,340,507	4,755,653
1864–65	1,396,821	2,725,419	4,122,240
1865–66	2,222,679	3,414,187	5,636,866
1866–67	3,958,357	3,339,346	7,297,703
1867–68	3,924,490	3,195,591	7,120,081
1868–69	1,969,814	2,512,084	4,481,898
1869–70	2,298,680	2,444,171	4,742,851
1870–71	1,899,054	1,877,216	3,776,270
1871–72	886,996	1,609,732	2,496,728
1872–73	822,995	*345,750*†	477,245
1873–74	1,028,032	*334,979*†	693,053
1874–75	1,174,893	*86,982*†	1,087,911
1875–76	1,151,585	*200,779*†	950,806
1876–77	1,222,846	*507,387*††	715,459
1877–78	1,792,481	*417,599**†	1,374,882*
	44,141,707	51,955,205	96,096,912
Deduct amount withdrawn by the Calcutta and South-Eastern Railway Company, this Railway having subsequently become the property of the State	267,362	346,609	613,971
Total	£43,874,345	51,608,596	95,482,941

* These amounts are partly estimated.

† Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amount withdrawn in India on Capital Account.

Note.—The total expenditure in India in each year as shown in the above Statement will not be found to coincide with that shown in the Indian Finance and Revenue Accounts, owing to the fact that the transfers of expenditure to Revenue Account can only be made in the books in this country on receipt of advices from India, and are consequently brought to account some months later than in the Indian books.

India Office, 4th April 1878. THOS. W. KEITH, Accountant.

REVENUE.

Guaranteed Lines.

45. The revenue derived from the guaranteed railways during the past year was 6,117,226*l.*, compared with 4,442,430*l.* of the previous year. The guaranteed interest in respect of the year 1877 amounted to 4,662,635*l.*, leaving a net surplus of 1,454,591*l.* Out of this, 890,823*l.* was paid to the East Indian, the Great Indian Peninsula, and the Eastern Bengal Companies, as the moiety of their surplus profits (1,811,934*l.*) after deducting 30,288*l.* as contributions to their provident funds. A sum of 73,432*l.*, which consisted of the surplus profits of the Bombay, Baroda, and Central India Railway, was, according to special agreement, applied to the fund for constructing the new Nerbudda bridge. The net amount received by Government in excess of the guaranteed interest was 490,336*l.*

Loss by exchange.

46. While this sum is contributed to the revenue of the country, it must be noticed that the Government, on the other hand, suffer, at the present low rate of exchange, a loss in supplying the Companies with funds in this country for the purchase of materials for construction and maintenance purposes (as well as for the guaranteed interest), which adds a considerable amount to the year's expenditure. Taking the contract rate at 1*s.* 10*d.* (in one or two cases it is more), and the average rate of exchange during the year at 1*s.* 8½*d.*, there would be a loss of 1½*d.*, or nearly 7 per cent., on each rupee. It may be estimated that during the past year a sum about equivalent to the net amount realized by Government in excess of the guaranteed interest was thus lost to the State.

Results since 1870.

47. The following table shows what has been received from the guaranteed railways on account of revenue, and what has been advanced to them on account of guaranteed interest, in each year since 1870:—

GUARANTEED RAILWAYS.

Year.	Capital expended to 31st March.	Net Revenue for Year to 31st December.	Guaranteed Interest for Year to 31st December.	Interest in excess of Revenue.	Revenue in excess of Interest.
	£	£	£	£	£
1870 - -	83,910,587	2,846,600	4,344,113	1,497,513	—
1871 - -	87,686,857	2,686,260	4,544,764	1,858,504	—
1872 - -	90,183,585	2,869,223	4,603,853	1,734,630	—
1873 - -	90,660,830	3,185,069	4,613,573	1,428,504	—
1874 - -	91,353,883	3,956,071	4,651,088	695,017	—
1875 - -	92,441,794	3,576,514	4,641,979	1,065,465	—
1876 - -	93,392,600	4,442,430	4,658,947	216,517	—
1877 - -	94,108,059	6,117,226	4,662,635	—	1,454,591

Results of each railway in 1877.

48. The following table gives the results obtained from each undertaking during the year now under consideration, by which it will be seen that four Companies exceeded the guarantee by 1,850,012*l.*, and that four were deficient to the extent of 395,421*l.* That of the four which earned surplus profits the East Indian divided amongst its shareholders 2*l.* 4*s.* per cent. in addition to the guaranteed interest, the Eastern Bengal 2*l.* 5*s.* per cent., and the Great Indian Peninsula 1*l.* per cent. The surplus of the Bombay and Baroda was, as already explained, devoted to the fund for the New Nerbudda bridge:—

RESULTS of WORKING the GUARANTEED RAILWAYS for the YEAR ended 31st December 1877.

Railway Company.	Net Revenue.	Guaranteed Interest.	Revenue in excess of Interest.	Interest in excess of Revenue.	Rate per cent. divided as Surplus Profits.	
					First Half.	Second Half.
	£	£	£	£	£ s. d.	£ s. d.
East Indian - - -	2,770,667	1,491,958	1,278,709	—	2 10 0	1 18 0
Great Indian Peninsula - -	1,553,384	1,116,188	437,146	—	2 0 0	—
Eastern Bengal - - -	260,747	147,721	113,026	—	0 10 0	4 0 0
Bombay, Baroda, and Central India	414,845	393,714	21,131	—	—	—
South Indian - - - -	152,205	185,721	—	33,516	—	—
Oudh and Rohilkund - -	206,761	263,003	—	56,242	—	—
Madras - - - -	374,723	510,568	—	135,845	—	—
Sind, Punjab, and Delhi - -	383,944	553,762	—	169,818	—	—
Totals - -	6,117,226	4,662,635	1,850,012	395,421	—	—

49. The revenue earned by the State railways amounted to 141,356*l.*, which was 27,852*l.* in excess of the previous year. State Lines.

50. The gross receipts of the guaranteed lines were 10,793,765*l.*, and the expenses were 4,676,539*l.* The gross receipts of the State lines were 537,628*l.*, and the expenses 396,272*l.* The net revenue from the two systems was 6,232,888*l.*, as explained at the foot of the Revenue Statement. Guaranteed and State.

51. Taking the capital expended up to the end of the year on all lines, State and guaranteed, at 113,345,000*l.*, the average receipt per cent. per annum would be 5*l.* 5*s.* The maximum reached was 9*l.*, on the East Indian; the minimum, 3*l.* 3*s.* 9*d.* The Eastern Bengal earned at the rate of 8*l.* per annum, and in the latter half of the year yielded a profit which, after paying the interest on debentures, would have given a dividend on the share capital at the rate of 13*l.* per cent. per annum. The following statement shows the rate per cent. per annum earned on the capital expended on the open lines to the end of the year:— Earnings per cent.

	Capital expended to 31st December 1877 (partly estimated).	Earnings per Cent. per Annum.
	£	£ s. d.
East Indian	30,632,000	9 0 10
Eastern Bengal	3,108,400	8 0 0
Great Indian Peninsula	23,100,000	6 10 0
Bombay, Baroda, and Central India	7,800,000	5 6 4
South Indian	*3,600,000	4 2 0
Sind, Punjab, and Delhi	10,500,000	3 15 0
Madras	10,500,000	3 11 0
Oudh and Rohilkund	5,750,000	3 10 0
Rajputana	2,688,000	3 3 9

52. The satisfactory results obtained must, to a certain extent, be attributed to the large traffic in grain caused by the famine in Southern India. It has been calculated that the receipts from this source alone were about 600,000*l.* But, while accepting this estimate, it must be borne in mind that much traffic of a more profitable kind was lost in consequence of the preference given to the consignments of grain to the famine districts, and of the inability of the railways, for want of rolling stock, to take much that was offered. A large export trade in wheat still continues, and there is fair ground for hoping that the traffic will maintain a steady progress, covering, before very long, the interest paid on the capital, and ultimately contributing regularly to the revenue of the State.

53. In 1872 the net receipts were 2,869,223*l.*, and the capital expended on the open lines about 92,030,000*l.* In 1877 the receipts were 6,232,888*l.*, and the capital expended 113,345,000*l.* In five years the net revenue has thus increased from 3*l.* 2*s.* 4*d.* to 5*l.* 5*s.* per cent. per annum.†

* A portion of the South Indian line is still under construction, and some of the expenditure to the end of the years, as shown in page 15, was consequently represented by unfinished work.

† I regret that, in my last Report, a mistake occurred in the compilation of the Revenue Statement, which was productive of several errors. In the Report of 1875–76 the receipts and expenditure of the Indus Flotilla were included and given separately in the statement, the total receipts amounting to 85,029*l.*, and the expenditure to 69,387. In the Report for 1876–77 these items were accidentally excluded from the statement relating to 1875, but included in the total. The addition was thus made to be incorrect, the totals including what should have been, but which was not, inserted. A careful writer of the "Financial Review" properly pointed out the error.

STATEMENT showing the REVENUE from the INDIAN RAILWAYS in 1876 and 1877, as given in the Accounts passed by Government.

Railway.		Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
		Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
GUARANTEED.		£	£	£	£	£	£	£		£
East Indian, Main Line	1877	886,748	2,600,819	151,854	3,639,421	275,817	860,262	1,136,079	31	2,503,342
	1876	*851,089*	*2,058,301*	*100,794*	*3,010,184*	*286,553*	*738,383*	*1,024,936*	*34*	*1,985,248*
,, Jabalpur Line	1877	99,112	271,484	55,558	426,154	46,687	112,142	158,829	37	267,325
	1876	*91,613*	*128,334*	*25,222*	*245,169*	*39,772*	*80,266*	*120,038*	*49*	*125,131*
Great Indian Peninsula	1877	536,601	2,366,549	101,143	3,004,296	168,111	1,282,851	1,450,962	48	1,553,334
	1876	*483,374*	*1,686,786*	*66,020*	*2,236,180*	*167,855*	*889,710*	*1,057,565*	*47*	*1,178,615*
Madras	1877	247,447	649,673	22,781	919,901	110,875	434,303	545,178	59	374,723
	1876	*237,370*	*393,904*	*20,821*	*652,095*	*125,959*	*293,854*	*419,813*	*64*	*232,282*
Bombay, Baroda, and Central India	1877	219,652	438,747	56,500	714,899	87,752	212,302	300,054	42	414,845
	1876	*214,530*	*386,610*	*19,654*	*620,794*	*114,843*	*225,414*	*340,227*	*54*	*280,567*
Sind, Punjab, and Delhi*	1877	236,402	467,019	199,163	902,584	136,005	382,635	518,640	57	383,944
	1876	*225,745*	*342,012*	*163,124*	*730,881*	*131,325*	*361,966*	*493,291*	*67*	*237,590*
South Indian	1877	152,968	145,167	11,717	309,852	17,181	140,466	157,647	50	152,205
	1876	*113,402*	*68,821*	*8,562*	*190,785*	*7,111*	*94,522*	*101,633*	*53*	*89,152*
Eastern Bengal*	1877	117,793	268,712	55,972	442,477	30,769	150,961	181,730	41	260,747
	1876	*108,542*	*181,067*	*44,053*	*333,662*	*32,437*	*121,714*	*154,151*	*46*	*179,511*
Oudh and Rohilkund	1877	172,869	218,618	42,694	434,181	49,474	177,946	227,420	52	206,761
	1876	*156,851*	*164,091*	*20,199*	*341,141*	*41,255*	*165,552*	*206,807*	*49*	*134,334*
Totals for Guaranteed Railways	1877	2,669,595	7,426,788	697,382	10,793,765	922,671	3,753,868	4,676,539	43	6,117,226
	1876	*2,482,516*	*5,409,926*	*468,449*	*8,360,891*	*947,080*	*2,971,381*	*3,918,461*	*47*	*4,442,430*

* These figures include the earnings from the flotillas worked in connection with these railways.

Railway.		Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
		Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
STATE LINES.		£	£	£	£	£	£	£		£
Calcutta and South-Eastern	1877	7,956	2,825	1,068	11,849	2,779	6,906	9,685	81	2,164
	1876	*6,937*	*2,715*	*182*	*9,834*	*3,352*	*7,331*	*10,683*	*108*	*Loss 849*
Nalhati	1877	5,562	3,187	197	8,946	4,174	4,814	8,988	100	Loss 42
	1876	*4,790*	*2,603*	*126*	*7,519*	*3,770*	*4,488*	*8,258*	*111*	*Loss 739*
Rajputana	1877	89,671	171,484	8,110	269,265	47,229	136,265	183,494	68	85,771
	1876	*84,107*	*148,301*	*4,150*	*236,558*	*43,004*	*109,316*	*152,320*	*64*	*84,238*
*Wardha Valley	1877	953	6,095	83	7,131	1,019	4,123	5,142	72	1,989
	six months *1876*	*319*	*1,587*	*8*	*1,914*	*568*	*1,707*	*2,275*	*119*	*Loss 361*
Holkar	1877	14,231	24,317	1,353	39,901	6,274	24,137	30,411	76	9,490
	1876	*10,809*	*23,463*	*3,567*	*37,839*	*5,910*	*29,355*	*35,265*	*93*	*2,574*
*Nizam's	1877	27,239	48,739	157	76,135	10,103	48,937	59,040	77	17,095
	1876	*23,217*	*29,979*	*128*	*53,324*	*12,669*	*33,042*	*45,711*	*86*	*7,613*
Punjab Northern	1877	33,889	33,915	1,843	69,647	15,887	43,954	59,841	85	9,806
	1876	*25,662*	*21,336*	*585*	*47,583*	*11,583*	*24,106*	*35,689*	*75*	*11,894*
Tirhut	1877	15,366	9,774	4,809	29,949	3,405	17,486	20,891	69	9,058
	1876	*5,115*	*6,917*	*5,910*	*17,942*	*2,883*	*9,437*	*12,320*	*67*	*5,622*
Berar — *Amraoti	1877	885	6,448	9	7,342	206	2,305	2,511	34	4,831
	1876	*712*	*5,601*	*57*	*6,370*	*283*	*4,196*	*4,479*	*70*	*1,891*
*Khamgaon	1877	392	4,194	78	4,664	444	2,441	2,885	61	1,779
	six months *1876*	*135*	*2,810*	*14*	*2,959*	*254*	*1,885*	*2,142*	*72*	*817*
Neemuch	1877	6,129	1,726	72	7,927	1,782	4,767	6,549	82	1,378
	1876	*2,251*	—	*6*	*2,257*	—	*1,453*	*1,453*	*64*	*804*
Northern Bengal, 5 months (Opened in August, 1877.)	1877	1,601	1,398	1,873	4,872	Not reported in returns from India		6,835	140	Loss 1,963
Totals for State Railways	1877	203,874	314,102	19,652	537,628	93,302	302,970	396,272	74	141,356
	1876	*164,054*	*245,312*	*14,733*	*424,099*	*84,276*	*226,319*	*310,595*	*73*	*113,504*

The above Revenue Statements give the financial results of the Guaranteed and State lines respectively. Inasmuch, however, as the four State lines marked * are worked by the Great Indian Peninsula Railway, their receipts are included in the Revenue Accounts of that Company. It is necessary, therefore, in summing up the total revenue derived from all the railways, both guaranteed and State, to deduct the receipts belonging to those lines.

The totals would then be as follows:—

Grand Total for all Railways	1877	2,844,000	7,675,414	716,707	11,236,121	1,004,201	3,999,032	5,003,233	44	6,232,888
	1876	*2,622,187*	*5,615,261*	*482,975*	*8,720,423*	*1,017,582*	*3,156,867*	*4,174,449*	*48*	*4,545,974*

GUARANTEED INTEREST.

54. The following tables relate to the advances made by Government on account of the guaranteed interest. It will be seen that last year they amounted to 4,653,438*l.*, and that since the commencement of railway operations under the guarantee system 66,212,183*l.* has been so paid, but that 39,409,880*l.* has been covered by railway earnings, leaving a debt of 26,802,303*l.* to be paid back with interest out of the half surplus profits of future years. The tables also show the account as it stands with each Company.

55. For the first time the annual aggregate amount paid for the guarantee has, as shown under the head of Revenue, been exceeded by the receipts. In other words, the railways have not only been able to pay all the guaranteed interest advanced by Government, but they have contributed to the revenue of the year 490,336*l.* In several previous years surplus profits have been earned by certain Companies, but the sum thus realized has been swamped by the deficiencies of others, and there has always been a deficit during the last seven years, varying from 1,858,504*l.* to 216,517*l.* Last year the profits earned by the East Indian, the Great Indian Peninsula, and the Eastern Bengal, in excess of the guarantee amounted to 1,811,934*l.*,* while the profits earned on the other four railways fell short of the guaranteed interest paid on their account by 395,421*l.*

A STATEMENT showing approximately the Amounts advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to the 30th June 1877, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total Amount advanced to 31st December 1877.*	Aggregate of Net Revenue Balances for the several half years to 30th June 1877, inclusive.	Net Amount advanced.
	£	£	£
East Indian, Main Line - - -	22,485,534	19,181,120	3,304,414
„ Jabalpur Line - -	2,194,796	722,939	1,471,857
Great Indian Peninsula - - -	15,854,161	9,483,308	6,370,853
Madras - - - - -	7,900,367	3,559,786	4,340,581
Bombay, Baroda, and Central India -	5,467,979	2,609,924	2,858,055
Sind, Punjab, and Delhi - - -	6,930,431	1,402,545	5,527,886
Eastern Bengal - - -	1,888,040	1,386,885	501,155
Oudh and Rohilkund - - -	1,776,970	460,172	1,316,798
South Indian - - - -	1,713,905	603,201	1,110,704
Totals - -	£66,212,183	39,409,880	26,802,303

* The Interest for the half year to 30th June 1877 not being paid until the succeeding half year.

India Office, 4th April 1877. THOS. W. KEITH, Accountant.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

STATEMENT of the Total Amount of INTEREST advanced to each of the under-mentioned Railway Companies to the 31st December 1877.

Railway Company.	Interest advanced to 31st December 1876.	Interest advanced during 1877.*			Total.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian, Main Line	21,156,148 7 10	1,322,236 5 9	7,148 13 5	1,329,384 19 2	22,485,533 7 0
„ Jabalpur Line - -	2,034,945 10 9	159,552 15 2	297 19 11	159,850 15 1	2,194,796 5 10
Great Indian Peninsula	14,724,534 7 4	1,121,995 6 0	7,631 4 6	1,129,626 10 6	15,854,160 17 10
Madras - - - -	7,392,056 12 1	508,310 1 3	—	508,310 1 3	7,900,366 13 4
Bombay, Baroda, and Central India - -	5,082,464 4 4	385,304 16 8	210 3 3	385,514 19 11	5,467,979 4 3
Sind, Punjab, & Delhi -	6,376,668 16 5	551,649 7 6	2,112 8 11	553,761 16 5	6,930,430 12 10
Eastern Bengal - -	1,740,294 6 6	146,907 8 4	838 12 7	147,746 0 11	1,888,040 7 5
Oudh and Rohilkund -	1,515,088 0 9	259,503 4 2	2,379 3 10	261,882 8 0	1,776,970 8 9
South Indian - -	1,536,544 12 9	177,360 9 4	—	177,360 9 4	1,713,905 2 1
Totals - -	£61,558,744 18 9	4,632,819 14 2	20,618 6 5	4,653,438 0 7	66,212,182 19 4

* It will be observed that the Interest advanced *during* the year is here given, while the amount deducted from the net receipts to show the surplus profits is that which is advanced for the year during which those receipts were realized. It is the practice to pay the guaranteed interest a few days after the half year for which it is due has closed.

India Office, 4th April 1878. THOS. W. KEITH, Accountant.

* This sum would have been further augmented by 73,432*l.* earned on the Bombay, Baroda, and Central India Railway, had it not been arranged that all surplus profits should go towards the funds for the New Nerbudda bridge while it was in course of execution.

STATEMENT showing the Amount of SURPLUS PROFITS earned by Guaranteed Railways to 31st December 1877 inclusive.

Railway Company.	To end of 1873.	Half year to 30th June 1874.	Half year to 31st Dec. 1874.	Half year to 30th June 1875.	Half year to 31st Dec. 1875.	Half year to 30th June 1876.	Half year to 31st Dec. 1876.	Half year to 30th June 1877.	Half year to 31st Dec. 1877.	Total.
	£	£	£	£	£	£	£	£	£	£
East Indian: Main Line -	1,013,449	641,832	77,951	158,559	38,702	352,531	299,133	638,851	531,923	3,752,911
Jabalpur Line -	—	11,238	—	—	—	—	—	61,518	36,089	108,845
Great Indian Peninsula - -	69,555	—	—	143,838	—	125,816	—	396,994	33,049	769,252
Bombay, Baroda, and Central India	5,864	4,723	—	5,954	—	20,357	—	—*	—	36,918
Eastern Bengal -	8,411	7,810	9,151	—	—	—	35,347	13,908	99,602	174,229
Totals - £	1,097,279	665,603	87,102	308,311	•38,702	498,744	334,480	1,111,271	700,663	4,842,155

* Surplus profits were earned by the Bombay, Baroda, and Central India Railway Company during this half year, but no division took place, owing to the special agreement that all surplus profits should be applied to the construction of the Nerbudda Bridge.

India Office, 4th June 1877.

THOS. W. KEITH, Accountant.

TRAFFIC AND WORKING.

56. The traffic for the year 1877 made an unprecedented advance, and the work was done at a proportionately less cost.

Goods traffic.

57. The total quantity of goods carried amounted to 8,309,943 tons,* compared with 5,793,949* of the previous year, showing an increase of 2,515,994 tons. The amount received for conveying the same was 7,669,314*l.*, compared with 5,651,357*l.* in 1876, giving increased earnings to the amount of 2,017,957*l.*

58. It has already been explained that this increase is due, principally, to the demand for grain which continued to come from the famine stricken districts in Southern India. The quantities were not only large, but they were conveyed long distances, the necessary supplies being obtained from the Upper Provinces and Bengal. The export trade also improved, especially from Calcutta, and the traffic would have been larger if the rolling stock had not been insufficient. As it was, the amount of grain carried over the various lines increased from 1,484,086 tons* in 1876 to 3,433,953* in 1877.

Passenger traffic.

59. The passenger traffic increased 3,587,756† in numbers and 218,353*l.* in receipts. In 1877 the numbers were 34,143,512;† in 1876, 30,555,756.† The gross earnings from passengers in 1877 were 2,843,951*l.*; in 1876, 2,655,067*l.*

60. The lower classes increased from 29,641,237 to 33,169,217, and in receipts from 1,985,282*l.* to 2,162,978*l.* The second class from 684,815 to 763,420, and from 154,074*l.* to 164,684*l.* The first class increased from 208,808 to 210,875 in numbers, and fell off from 142,576*l.* to 136,121*l.* in receipts. Last year the third class constituted 97·14 of the whole, the second class 2·23, and the first ·63. The year before the proportions were 97, 2·24, and ·76, respectively. Each passenger travelled on an average about 60 miles.

61. The passenger receipts were 25·77 per cent., in proportion to 69·37 from goods. Five years ago the proportions were 32·84 per cent. passengers, 62·46 goods; the rest were miscellaneous.

Merchandise

62. The advance made is greater on the side of goods than of passengers, and the principal increase is amongst articles of staple produce and general consumption, which are carried at the lowest rates, viz., from ½*d.* to 1*d.* a mile. The average distance over which each ton was carried was about 236 miles. Five years ago only 586,133 tons of grain were conveyed on the railways. Last year, as we have seen, 3,433,953 were carried. The salt five years ago amounted to 248,586 tons; last year it was 462,716. Coal in 1872 was 403,632 tons, last year it was 673,168. Tobacco was 31,055, compared with 46,451, and sugar 124,790 tons, with 305,236. Hides were 59,646 in 1872, last year they were 67,363. Cotton, on the other hand, has gone back,

* I should explain that these figures are the aggregate of all the lines, and therefore embrace some of the same quantities carried twice or thrice when taken over more than one line. The goods carried by the Indus flotilla are not included.

† These are exclusive of season ticket holders.

having been 201,611 in 1872, and 188,902 in 1877. I may here mention that a famine affects traffic in different ways. The movement of grain from one part of the country to another is of course increased, but the export trade receives a check when the rolling stock is unable to meet the requirements of both. Passenger traffic, too, is diminished in the famine districts, in consequence of the impoverished condition of the people. The demand for piece goods and other articles also fall off from the same cause. The ordinary trade of the country is likewise deranged. On the Madras line last year only 1,684 tons of cotton were carried, compared with 23,475 of the previous year. On the other hand, the increase in hides was in some measure attributable to the mortality amongst the cattle, caused by insufficient food.

Train mile results.

63. The average receipts per train mile on the East Indian were 8·97*s.*, on the Great Indian Peninsula 7·04*s.*, on the Madras 5·18*s.*, on the Bombay and Baroda 11·84*s.*, on the Sind and Punjab 7·7*s.*, on the Eastern Bengal, South Indian, and Oudh and Rohilkund 12·16*s.*, 5·4*s.*, and 6·59*s.* respectively, on the Rajputana 6·03*s.* The average on all the lines was, passengers 23·80*d.*, goods and miscellaneous 68·47*d.* On the English lines the average in 1876 was, passengers 58·63*d.*, goods 75·78*d.*

Inutility of, for purposes of comparison.

64. The train mile results are, however, of little worth in comparing one line with another. The proportion of train miles run to the length of a line is no real test of the work done; and the receipts per train mile alone are far from being an accurate guide as to the profitable character of an undertaking. The returns issued by the Board of Trade, showing the results of the English lines, do not give the information which would enable the only reliable comparative test of economical working to be applied. Until the number of passengers and tons carried one mile on each line is given and the average cost of conveying a passenger and a ton of goods one mile becomes thereby ascertainable, any attempt to draw comparisons that are of real practical service or to form an accurate judgment of how the business of a railway is managed is futile.

Deficiency of rolling stock.

65. Complaints have been, and are still, received from several quarters of the deficiency in the rolling stock. That much traffic was at certain times and in certain places lost in consequence of the want of wagons appears clear. An exaggerated view of the requirements of a line may be taken after such disappointments, and it has happened that undue demands have been made under the influence of panic; but when experience proves the existence of a real want, the interests of the railways as well as the claims of trade call for a ready response to the demand for greater means of transport. The locomotive stock has during the year been augmented by 111 locomotives; and 1,434 wagons, as well as 203 passenger carriages, have been added to the rolling stock. The demand, however, for more still continues, and a further number are being sent out this year.

Supply of more powerful locomotives.

66. Considerable economy in working the traffic may be expected from the introduction recently of a more powerful type of locomotive. Heavier train loads, which is at the basis of economical management, will then be run and the train mileage will be proportionately reduced. The engines now being sent out are made with 18-inch cylinders, instead of 17-inch, the various parts being suitably strengthened.

Work done by locomotives.

67. The following table gives the average number of miles run by each locomotive on each line, as well as the average work done as represented by passengers and goods carried per mile :—

INDIAN RAILWAYS, Year 1877.

Line.	Number of Passengers conveyed per Engine.	Number of Passengers moved over one Mile per Engine.	Tons of Goods moved over one Mile per Engine.	Number of Train Miles per Engine.
East Indian, Main Line	15,333	1,378,280	1,840,027	17,735
„ Jabalpur Line	7,863			21,920
Great Indian Peninsula	12,115	1,040,483	1,689,861	24,623
Madras	21,518	1,235,409	1,309,421	29,107
Bombay, Baroda, and Central India	72,849	2,348,382	1,457,300	20,325
Sind, Punjab, and Delhi	33,432	2,196,097	1,290,079	24,279
South Indian	43,996	1,612,904	376,597	12,664
Eastern Bengal	56,574	2,627,818	1,674,516	19,900
Oudh and Rohilkund	32,021	1,829,135	779,229	15,479
Rajputana (State)	20,451	1,254,127	407,911	13,522

68. The expense of maintaining and working the railways during the year amounted to 4,883,115*l.* as compared with 4,129,424*l.* of the previous year. The cost of maintenance was 1,004,340*l.* or 142·74*l.* per mile open and 8·32*d.* per train mile. Maintenance and working.

69. The cost of working, including repairs to rolling stock and miscellaneous expenses, was 3,878,775*l.*, or 32·06*d.* per train mile.

70. The cost of working and maintenance together came to 40·38*d.* per train mile. On English lines the average cost in 1876 was 36·13*d.*

71. The proportion per cent. of expenditure to gross receipts was 43·79 compared with 47 in 1876.

72. The number of miles travelled by trains of all descriptions was 28,965,447 compared with 21,609,411 of the previous year. The passenger train mileage was 3,738,001 compared with 3,664,354; the goods, 16,266,457 compared with 10,004,054; the minerals, 302,271, compared with 258,309; and the mixed goods and passengers, 8,098,179, as against 7,291,940. Train miles.

73. The table at p. 38 showing the working expenses in various departments exhibits some important variations and some curious matter for investigation.

74. In the locomotive charges the advantage which those Companies possess who find coal, as it were, at their door is at once apparent, and it is satisfactory to watch the increasing supply from native sources. The cost per train mile of fuel on the East Indian is only 1·6*d.*, while on the Madras and Punjab lines it is 4·8*d.* and 6·3*d.* respectively, making a difference of from 6 to 8 per cent. in the working expenses. All the coal used on the Madras lines is brought either from England or Australia, and last year cost the Companies from 32*s.* to 34*s.* a ton at the point of delivery, while the East Indian has coal mines at Kurhurballi and Serampore which yield all that is required for the working of their line at a cost of 6*s.* per ton at the pit's mouth. I may here mention that the Kurhurballi coal fields are held by the Company on a lease from the Government, from the 1st January 1871, for 82 years, at a yearly rental of Rs. 50,729 and a royalty of one rupee for every maund raised over 5,000,000, 3,000,000 at least to be raised every year. In the event of the railway and works coming into the hands of the Government before the expiry of the term of the lease, the tenure ceases and the lands revert to the lessor. The lease may be terminated by the lessor at the expiration of the first 10 years, or at the end of any subsequent period of 10 years. The Serampore mines are held separately on a perpetual lease from the Tekait of Serampore, at a yearly rental of Rs. 4,943. 3. 4. The expenditure necessary to bring the mines into working order has been Rs. 4,71,566, and has been paid out of Revenue. The average cost per ton during the first five years was 9*s.* 8½*d.*, during the second 6*s.* 10¾*d.* The average cost at which the whole line is supplied is of course greater as the expense of haulage has to be added, and the distances are great. Coal.

The following results, which are drawn from the detailed statements at the end of the Report and from Mr. Rendel's Tables, give the main points of interest in connection with the expenditure on each line:— Main points of interest in working expenditure.

Line.	Working Expenses per Train Mile.	Cost of Maintenance.		Cost of Locomotive Power per Train Mile.	Work done by each Pound of Expenditure on Revenue Account.	Cost of carrying		Profit on carrying	
		Per Train Mile.	Per Open Mile.		Passengers carried One Mile. + Tons carried One Mile.	One Passenger One Mile.	One Ton One Mile.	One Passenger One Mile.	One Ton One Mile.
	s.	*d.*	£	*d.*		*d.*	*d.*	*d.*	*d.*
East Indian { Main	2·89	8·41	215·5	8·11	} 577 + 773	·125	·218	·252	·599
East Indian { Jabalpur	3·24	11·43	208·8	11·06					
Great Indian Peninsula	3·44	4·79	123·2	19·4	240 + 392	·190	·495	·184	·508
Madras	3·07	7·49	123·8	13·36	238 + 308	·197	·593	·197	·377
Bombay, Baroda, and Central India	4·84	16·98	197·6	17·13	583 + 349	·175	·395	·193	·835
Sind, Punjab, and Delhi	4·27	16·56	204·8	16·07	496 + 292	·193 approximate	·497	·122 approximate	·563
South Indian	2·73	3·5	28·5	14·9	1,063 + 250	·086	·59	·139	·364
Eastern Bengal	4·79	11·24	194·1	12·83	599 + 387	·180	·347	·146	·803
Oudh and Rohilkund	3·42	8·92	90·2	13·59	923 + 396	·092	·39	·150	·325
Rajputana (State)	4·11	11·62	119·2	19·14	514 + 167	·227	·74	·011	·660

Coal.

75. Now that the rates for transport have been reduced, the Great Indian Peninsula Railway find it advantageous to use the Bengal coal on the Jabalpur section of their line. During the year ended December last they obtained 21,459 tons from the Bengal Coal Company, at a cost to them of Rs. 19. 9. 6 per ton. They use also coal from the Nerbudda Coal Company's works, at a contract price of Rs. 9 per ton, and coal from the Government mines at Wurrora is available for the Nagpore branch. The Locomotive Superintendent of the line pronounces the Bengal coal to be equal to English, the Nerbudda to require 33 cwt. to do the same amount of work as one ton of English, and the Wurrora to be about half as good as English. He admits, however, that a good deal depends upon the manipulation of the coal by stokers and drivers, and expects to introduce improvements in this respect which will ensure greater economy. The frequent escape of sparks from the Wurrora coal is also an objection which has to be overcome.

Iron.

76. The extension of railways into the coal districts of the country, besides opening up important industries, is thus greatly contributing to the economical working of the lines. The production of iron is a matter in which the railways are also much interested, and it may be hoped that attempts will now be made to work the ore and send the manufactured article over the country from places which for their inaccessibility hitherto have been shut out from the opportunity of supplying iron to distant parts of the country. So long ago as 1853 Lord Dalhousie, after alluding to the fact that iron had been discovered in various places, added, "on these facts fair hopes may "be built that the present most urgent want of India in connection with her material "improvement, namely, an ample supply of *good iron* within her own bounds, may "be abundantly supplied." And yet little has been accomplished. One reason why so little has been done, viz., the difficulty and expense of carriage, does not now exist to the same extent, and the time appears to have arrived for taking the subject into serious consideration.

Compensations paid during the year.

77. A formidable item, under the head of compensation for losses of goods in transit, swells the miscellaneous charges of the East Indian and the Great Indian Peninsula Companies. No less than 28,049*l.* by the one and 32,764*l.* by the other was paid on this account. The loss incurred by the East Indian was occasioned by damage done to grain stored at Howrah by an unusual and unexpected downpour of rain in January. The compensation paid by the Great Indian Peninsula was to make good losses by robberies. It was discovered that grain going to the famine districts was systematically stolen by organized bands of robbers, who were sometimes aided and abetted by the servants of the railway, and sometimes even by the police themselves. The continuance of these depredations induced the Government of Bombay to appoint a Commission to investigate both the causes of the thefts and of the failure of the railway authorities to stop them.

Police.

This Commission came to the conclusion that the present railway police system, under which one force has jurisdiction within the limits of the railway premises and another in the district beyond, involved divided responsibility, and was faulty in principle, and recommended that the separate railway police should be done away with, the custody of the line being committed to the district police. Opinions differ as to whether this is the proper course to take, but it seems clear that the responsibility should not be divided, and that security to property should not be imperilled through the jealousies and misunderstandings of two separate bodies of police.

Robberies of grain.

78. It would appear that the thefts in the first instance were committed by poor famishing creatures who could not resist the temptation which trains passing their doors full of grain furnished. The impunity with which this pilfering was carried on led to the formation of the organized bands of robbers above referred to. The subordinate servants of the railway then connived at the depredations, and certain station masters became corrupted by bribes from Native merchants. The misfortune is that success with grain robberies has encouraged the extension of the system of pillage to other articles. A strong and immediate remedy is accordingly necessary. After thus exposing the demoralization of the subordinate staff of the railway, the Commissioners conclude their report by saying, "We have sought to avoid imputing blame to the "principal Company's servants. We have learnt to appreciate their herculean labours "and ceaseless devotion to their employers and the public in the crisis now passing "away. With this brief tribute to their honourable services, we beg to thank them, "one and all, for the courtesy they have shown and the aid they have given to us."

Clearing House.

79. An interesting report was made by Major T. F. Dowden, R.E., Deputy Consulting Engineer to the Government of India, on the English Railway Clearing System.

He describes the ease and accuracy with which interchange of stock and through traffic is conducted in this country, and shows that the same rules may in the main be applied to any country. They virtually make the railway system as it should be, one homogeneous whole, ensuring economy and due despatch. The terms for the use of the vehicles of one line on another being mutually settled, disputes as to charges cannot occur, and matters are arranged smoothly and systematically.

Good management in India.

80. Great credit is due to the managers and officers in India for the manner in which they conducted the traffic under the difficulties of an unprecedented pressure. It can hardly be repeated too often that the success of a railway commences with skilful and economical management. There are, no doubt, always certain influences at work which are beyond control. The state of trade, the price of fuel, the weather, a good or bad harvest, political disturbances, will all affect traffic; but this increases the necessity for making the strictest economy the invariable rule, and for charging in ordinary times the lowest rates consistent with fair profits.

FARES and RATES in use on the INDIAN RAILWAYS.

Railway.	Passengers. Fare for travelling One Mile. First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Goods. Rate for conveying One Ton One Mile. First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth or Highest Class.	Special.
GUARANTEED.	pies.*	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.	pies.
East Indian, Main Line.	18	9	4·5	3	—	9·073	13·61	18·146	22·685	27·221	From 4·537 to 9·073.
East Indian, Jabalpur Line.	18	9	4·5	3	—	9·073	13·61	18·146	22·685	27·221	From 4·537 to 9·073.
Great Indian Peninsula.	18	9	—	4	2·5	10	14	24	34	48	From 5·5 to 8.
Madras - Single	18	7	—	3·5	2	10	14	18	24	36	From 4 to 8.
Madras - Return	27	10·5	—	4·375	—	—	—	—	—	—	
Bombay, Baroda, and Central India.	15	7	—	Mail 4 Ordinary 3	—	10	15	21	30	42	Up to 8.
Sind, Punjab, and Delhi.	18	9	4·5	2·25, 2·5, and 3.	—	9·07	13·61	18·14	22·68	27·22	From 6·8.
South Indian -	8	3	—	2	—	12	—	—	24	54	From 6 to 10.
Eastern Bengal -	12	6	—	4·5	3	8·99	10·67	14·31	21·02	40·83	From 7·98 to 10·41.
Oudh and Rohilkund	Upper 9	Upper Reserved 36	Lower 2	Lower Reserved 3	Lower Reserved Cmptmnt. 16 & 24	Low 6·80	Middle 13·61	—	—	High 27·22	From 4·53 to 5·44.
STATE.											
Calcutta and South-Eastern.	18	9	—	3	—	10·61	17·66	22·88	38·34	99·11	Up to 7·58.
Nalhati - -	17·61	5·29	—	3·52	—	12·93	20·72	31·63	52·16	85·46	Up to 11·64.
Amraoti - -	18	9	—	4	2·5	10	14	24	34	48	From 5·5 to 8.
Khamgaon - -	18	9	—	4	2·5	10	14	24	34	48	From 5·5 to 8.
Northern Bengal -	12	6		2·25	—	13·75	20·66	27·86	—	—	From 10·32.
Punjab Northern -	9·18	3·85	—	1·79	—	11·03	15·45	19·41	—	—	From 5·49 to 6·50.
Rajputana	10·054	4·99	—	1·99	—	12·75	19·93	26·14	—	—	
Neemuch - -	10·37	5·19	2·59	1·62	—	11·77	17·65	23·54	—	—	From 5·88 to 7·36.
Neemuch - - †	8 annas	4 annas	2 annas	1a. 3p.	—	108·88	163·32	217·76	—	—	From 54·44 to 68·05.
Nizam's - -	18	9	—	4	2·5	10	14	24	34	48	From 5·5 to 8.
Wardha Valley -	18	9	—	4	2·5	10	14	24	34	48	From 5·5 to 8.
Tirhut - -	12·63	6·32	—	2·37	—	15·60	22·50	30·05	—	—	11·35.
Holkar:											
Khandwa to Choral section	11·79	4·42	—	2·21	—						
Choral section †	8 annas	3 annas	—	1a. 3p.	—	13·99	20·99	27·99	—	—	From 6·10 to 8·75.
Mhow to Indore section.	14·77	7·38	3·69	2·30	—						
section. †	8 annas	4 annas	2 annas	1a. 3p.	—	†4	6	8	—	—	From 2 to 2·5 per maund.
						per maund.					

* 8 pies is about equivalent to 1*d*. † Station to station rate.

Returns prepared by Mr. Rendel.

81. The returns given below are drawn up on the same principles as those given in previous years, except that receipts from demurrage are treated as receipts from goods traffic instead of being deducted from working expenses.

82. Accounts in India being kept in rupee currency, they have been converted *in all cases* into sterling at the rate of 1*s.* 10*d.* per rupee.

(*a*) PASSENGER TRAFFIC.

	East Indian. Main and Jabalpur Lines together.	Great Indian Peninsula.	Madras.	Bombay, Baroda, and Central India.	Sind, Punjab, and Delhi.	Eastern Bengal.	Oudh and Rohilkund.	South Indian (Narrow Gauge).	Rajputana (State Line) (Narrow Gauge).	All together.
Average length open, miles	No. 1,503	No. 1,268½	No. 895	No. 443½	No. 663½	No. 158	No. 548	No. 601	No. 396	No. 6,477
(1.) Receipts from passenger traffic.	£ 985,854	£ 507,136	£ 247,447	£ 219,653	£ 236,403	£ 117,746	£ 158,464	£ 145,293	£ 82,198	£ 2,700,194
(2.) Passenger train miles run	No. 2,646,376	No. 1,556,378	No. 842,954	No. 512,383	No. 695,306	No. 291,194	No. 467,008	No. 434,256	No. 409,124	No. 7,854,184
(3.) Average passenger train mile receipts.	*s.* 7·45	*s.* 6·73	*s.* 5·87	*s.* 8·57	*s.* 6·8	*s.* 8·09	*s.* 6·78	*s.* 6·7	*s.* 4·02	*s.* 6·875
(4.) Number of passengers carried one mile.	No. 627,117,403	No. 344,400,000	No. 150,720,000	No. 143,251,300	No. 180,680,000 (approx.)	No. 86,718,000	No. 157,305,600	No. 148,087,200	No. 82,772,400	No. 1,920,751,905
(5.) Average sum *received* for carrying a passenger one mile.	*d.* ·377	*d.* ·374	*d.* ·394	*d.* ·368	*d.* ·315 app.	*d.* ·326	*d.* ·242	*d.* ·235	*d.* ·238	*d.* ·337
(6.) Average number of passengers in a train at any one time.	No. 237	No. 222	No. 179	No. 279	No. 259 app.	No. 298	No. 337	No. 342	No. 202	No. 245
(7.) Average number of passenger trains per diem *each* way, supposing each train to traverse the whole line open.	No. 2·41	No. 1·68	No. 1·29	No. 1·88	No. 1·4	No. 2·53	No. 1·16	No. ·99	No. 1·4	No. 1·66
(8.) Average number of passengers passing over each mile of line daily (both ways).	No. 1,143	No. 741	No. 461	No. 884	No. 743 app.	No. 1,503	No. 786	No. 678	No. 572	No. 801
(9.) Total working expenses for both goods and passengers, deducting telegraph special and miscellaneous, but not demurrage receipts from them.	£ 1,087,639	£ 1,431,604	£ 522,397	£ 245,716	£ 363,058	£ 144,649	£ 169,333	£ 159,574	£ 160,769	£ 4,264,739
(10.) Average cost of running a train mile, passenger and goods miles assumed to cost the same.	*s.* 2·46	*s.* 3·51	*s.* 2·942	*s.* 4·07	*s.* 4·17	*s.* 4·45	*s.* 2·57	*s.* 2·46	*s.* 3·82	*s.* 3·107
(11.) Average cost of carrying a passenger one mile.	*d.* ·125	*d.* ·19	*d.* ·197	*d.* ·175	*d.* ·193 app.	*d.* ·18	*d.* ·062	*d.* ·086	*d.* ·227	*d.* ·152

(*b*) GOODS TRAFFIC.

Average length open, miles	No. 1,503	No. 1,265½	No. 895	No. 443½	No. 663½	No. 158	No. 548	No. 601	No. 396	No. 6,477
(1.) Receipts from goods traffic	£ 2,872,368	£ 2,547,693	£ 649,673	£ 458,747	£ 468,019	£ 268,712	£ 200,400	£ 138,555	£ 157,194	£ 7,541,596
(2.) Goods train miles run	No. 6,206,106	No. 6,595,962	No. 2,703,985	No. 695,011	No. 1,045,289	No. 365,511	No. 850,637	No. 702,118	No. 432,296	No. 19,600,095
(3.) Average goods train mile receipts.	*s.* 9·256	*s.* 7·12	*s.* 4·8	*s.* 13·62	*s.* 8·95	*s.* 14·7	*s.* 4·95	*s.* 3·95	*s.* 7·27	*s.* 7·7
(4.) Tons of goods carried one mile.	Tons. 341,308,637	Tons. 562,158,600	Tons. 160,920,466	Tons. 35,760,420	Tons. 100,040,100	Tons. 56,078,400	Tons. 67,142,261	Tons. 34,956,600	Tons. 26,922,142	Tons. 1,941,287,686
(5.) Average sum received for carrying one ton one mile.	*d.* ·817	*d.* 1·003	*d.* ·97	*d.* 1·23	*d.* 1·06	*d.* 1·15	*d.* ·715	*d.* ·954	*d.* 1·4	*d.* ·932
(6.) Average number of tons in a goods train at one time.	No. 135·5	No. 85	No. 59·5	No. 123·5	No. 101·5	No. 154	No. 79	No. 50	No. 62	No. 99
(7.) Average number of goods trains per diem each way, supposing each train to run over the whole line open.	No. 5·66	No. 7·14	No. 4·14	No. 2·15	No. 2·15	No. 3·17	No. 2·13	No. 1·6	No. 1·5	No. 4·14
(8.) Average number of tons of goods passing over each mile of line daily (both ways).	No. 1,534	No. 1,214	No. 496	No. 550	No. 438	No. 973	No. 336	No. 102	No. 186	No. 820
(9.) Total working expenses for both goods and passengers, deducting from them telegraph, special and miscellaneous receipts, but not demurrage which is treated as goods receipts.	£ 1,087,639	£ 1,431,604	£ 522,397	£ 245,716	£ 363,058	£ 144,649	£ 169,333	£ 159,574	£ 160,769	£ 4,264,739
(10.) Average cost per train mile, goods and passenger miles assumed to cost the same.	*s.* 2·46	*s.* 3·51	*s.* 2·942	*s.* 4·07	*s.* 4·17	*s.* 4·45	*s.* 2·57	*s.* 2·46	*s.* 3·82	*s.* 3·107
(11.) Average cost of carrying a ton of goods one mile.	*d.* ·218	*d.* ·495	*d.* ·593	*d.* ·395	*d.* ·497	*d.* ·347	*d.* ·39	*d.* ·59	*d.* ·74	*d.* ·376

83. It will be seen that the South Indian (narrow gauge) line obtained the highest passenger train load (342 persons), the Madras line the lowest (179 persons).

84. The highest average goods train load is on the Eastern Bengal (154 tons). The lowest is on the South Indian (50 tons).

85. The lowest average charge per mile for passengers is found on the South Indian (·235*d.*), the highest on the Madras (·394*d.*).

86. The highest average charge for goods per ton per mile is found on the Rajputana (State) line (1·4*d.*), the lowest on the Oudh and Rohilkund (·715*d.*).

87. The highest cost per train mile is found on the Eastern Bengal (4·45*s.* = 4*s.* 5½*d.*), the lowest on the South Indian (narrow gauge) and East Indian (each 2·46*s.* = 2*s.* 5½*d.*).

88. The lowest cost of carrying a passenger one mile is found on the South Indian (·086*d.*), the highest on the Rajputana State line (·227*d.*) (both narrow gauge).

89. The lowest cost of carrying a ton of goods one mile is found on the East Indian (·218*d.*), the highest on the Rajputana (·74*d.*).

90. The largest passenger traffic is found on the Eastern Bengal (1,503 persons passing over every mile daily), the smallest on the Madras (461 persons).

91. The largest goods traffic is found on the East Indian (1,534 tons passing over each mile of line daily), the smallest on the South Indian (162 tons).

92. It is possible that mixed mileage is divided on the South Indian between passengers' and goods' trains on a different principle from that adopted on other lines. This may account for its comparatively large passenger train and small goods train loads.

93. A steady improvement seems to be taking place in the management of all the lines, the working expenses for the same quantity of traffic being generally considerably less than in the previous year.

ACCIDENTS.

94. In the absence of the returns from India of accidents connected with the railways, I am unable to give more than a short summary, compiled from information furnished by the Companies in this country, of the accidents which occurred during the year 1877.

95. By this statement it appears that 22 passengers suffered death from causes beyond their control, and 10 more received injuries in the same way. The proportion of killed was ·738 per million, of damaged ·335 per million, to the whole number carried.

96. As usual, a number of railway servants were killed and injured through a careless performance of their duties. No less than 99 are reported to be killed, and 169 injured from causes within their control and therefore preventable.

97. The most serious accident occurred on the Madras line near Arconum on the 9th November. A mail train ran into a goods train. Five persons, including one European, were killed. The accident was owing to the neglect of the Native station master at Naggery, who was tried and convicted of the offence, and sentenced to 18 months' imprisonment, but was released on appeal.

98. Numerous accidents occurred on the Great Indian Peninsula Railway during the pressure of traffic in grain for the famine stricken districts. They appear to have been caused principally by wild and reckless driving. No lives were lost, but considerable damage was done to locomotives and rolling stock.

99. In one case the death of a boy is attributed to his having been run over on the South Indian Railway, but no inquest was held, and there appears to have been no evidence on his person that he had been killed in the manner alleged. His body was found about 40 yards outside the fence, and it would almost seem that this circumstance alone led to the conclusion that he had met his death on the line. The South Indian Railway Board properly suggested that the matter should be more thoroughly investigated.

Accidents to Persons during the Year 1877.

	Passengers Killed or Injured from Causes beyond their control.		Passengers Killed or Injured from their own Misconduct or Incaution.		Railway Servants Killed or Injured from Causes beyond their control.		Railway Servants Killed or Injured from their own Misconduct or Incaution.		Persons Killed or Injured at Level Crossings.		Trespassers.		Miscellaneous.		Total Persons of all Classes.		Total Killed or Injured.
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	
East Indian, Main Line -	2	4	2	17	1	9	22	54	3	2	49	6	6	11	85	103	188
„ „ Jabalpur Line	—	—	1	—	—	—	2	6	—	—	3	1	1	1	7	8	15
Great Indian Peninsula -	1	—	—	—	12	27	26	46	—	—	32	11	17	18	88	102	190
Madras - - -	13	1	3	—	4	9	22	19	—	—	19	12	17	4	78	45	123
Bombay, Baroda, and Central India.	—	4	—	—	1	6	7	13	—	—	3	—	4	1	15	24	39
Sind, Punjab, and Delhi -	—	1	—	6	8	3	9	15	—	—	—	—	11	1	28	26	54
South Indian - -	4	—	1	1	5	12	4	10	—	—	9	4	4	1	27	28	55
Eastern Bengal - -	2	—	—	1	5	4	3	1	—	—	5	1	—	—	15	7	22
Oudh and Rohilkund -	—	—	2	3	—	1	4	5	2	3	11	2	2	2	21	16	37
Totals - -	22	10	9	28	36	71	99	169	5	5	131	37	62	39	364	359	723

STATEMENT showing the QUANTITIES of the principal Articles of MERCHANDISE &c., carried on the GUARANTEED RAILWAYS in 1876 and 1877.

Articles.	East Indian, Main Line.		East Indian, Jabalpur Line.		Great Indian Peninsula.		Madras.		Bombay, Baroda, and Central India.		Sind, Punjab, and Delhi.		South Indian.		Eastern Bengal.		Oudh and Rohilkund.	
	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.	1877.	1876.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	—	—	—	—	—	—	4,398	5,563	See Piece Goods.		528	448	2,768	4,070	—	—	—	—
Coal	624,022	520,261	24,672	6,424	5,751	654	569	1,219	2,531	1,483	1,896	639	—	—	11,600	6,563	2,129	3,189
Cocoa-nuts	—	—	—	—	8,794	10,203	5,005	3,466	5,713	5,763	523	602	Areca nuts. 2,656	3,197	—	—	59	—
Coffee	—	—	—	—	575	—	4,161	6,044	21	25	50	46	—	—	—	—	—	—
Cotton	22,753	27,984	2,698	1,535	99,337	84,721	1,684	23,475	45,041	47,533	8,721	7,871	1,031	880	1,718	750	5,919	8,209
Dried Fruits	7,466	5,646	3,931	2,368	15,140	13,794	—	—	7,271	5,111	6,548	6,253	—	—	—	—	—	—
Firewood	6,376	15,111	5,083	13,142	35,230	43,266	6,930	10,389	6,536	5,266	16,880	9,469	—	—	—	—	12,180	9,141
Grain	411,482	195,452	141,449	45,414	735,541	424,515	594,887	116,421	119,636	62,923	358,043	91,628	233,016	68,650	43,104	12,365	247,422	154,846
Green Fruits and Vegetables	—	—	—	—	14,519	10,505	5,137	4,689	10,914	11,038	4,573	3,843	4,095	2,853	—	—	2,454	1,634
Gunny Bags	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5,098	5,845	—	—
Hides	22,639	19,180	1,557	3,385	10,274	10,856	18,516	14,739	918	918	4,083	4,056	2,339	1,637	3,897	4,357	3,140	2,664
Iron	42,883	54,184	4,760	3,352	—	—	8,428	9,451	See Metals.		11,447	10,635	Granite stones 41,298	20,845	58	32	4,309	—
Jagree and Sugar	103,267	100,956	11,774	25,047	33,857	28,257	11,429	11,682	22,196	28,388	48,280	47,575	—	—	10,876	9,350	64,057	71,278
Jute	25,654	614	120	268	—	—	—	—	—	—	17	—	—	—	128,309	144,970	6,290	553
Metal and Hardware	—	—	—	—	46,169	24,939	—	—	9,249	8,197	2,883	2,252	—	—	1,156	968	780	4,184
Military Stores	21,636	18,392	1,673	1,556	8,841	9,062	4,337	4,647	1,563	1,928	7,949	10,412	—	—	107	135	5,436	4,662
Oil	5,083	4,230	749	366	6,638	8,667	4,148	7,080	4,281	2,300	1,670	2,491	and Ghee 2,275	3,215	—	—	672	675
Opium	12,274	9,496	—	—	3,918	4,245	—	—	795	936	49	59	Oil cakes 5,992	6,124	11	16	1,489	1,163
Piece Goods	51,633	49,285	6,911	5,897	19,286	17,371	—	—	7,126	7,617	10,908	10,446	5,672	7,079	12,570	10,370	3,888	3,939
Rice	237,978	174,065	29,148	11,116	—	—	129,658	101,243	See Grain.		7,358	9,966	—	—	119,686	15,482	25,345	—
Salt	154,939	154,223	7,280	6,442	86,281	84,491	58,609	51,471	50,887	43,950	19,025	17,210	21,045	16,526	21,300	15,337	43,350	40,015
Seeds	285,222	202,797	49,474	19,628	160,552	159,371	11,511	19,232	45,253	35,157	66,460	78,437	9,995	11,609	42,034	28,608	52,451	17,808
Silk	650	658	46	68	435	530	—	—	See Piece Goods.		92	85	Sundries. 41,479	35,872	142	118	8	—
Tea	—	—	—	—	—	—	—	—	—	—	—	—	—	—	472	420	—	—
Timber	18,863	20,255	535	398	4,653	11,343	10,720	15,153	17,647	19,494	8,672	5,750	—	—	—	—	10,483	12,074
Tobacco	14,494	10,117	1,858	822	4,168	2,982	6,206	6,272	8,402	6,518	1,014	1,151	2,002	1,154	7,686	11,251	621	616
Turmeric	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,179	4,083	—	—
Twist	3,525	3,201	791	681	5,947	5,569	3,819	5,002	2,098	2,188	2,040	1,491	—	—	—	—	863	731
Wines, Spirits, &c.	6,001	6,497	549	581	3,274	3,753	2,469	2,556	512	645	2,159	2,347	—	—	281	316	2,710	2,309
Wool	—	—	—	—	752	588	—	—	2,426	2,476	6,418	6,526	—	—	—	—	32	—

STATEMENTS relating to the PASSENGER and GOODS TRAFFIC and the GROSS

TABLE No. 1.—STATEMENT of TRAFFIC on the INDIAN

Railway.	Actual Number of Miles open on 31st December, and Average Number of Miles of Open Line during 1877.						Number of Miles of Sidings on 31st December 1877.	Passenger Traffic.						
	Double.		Single.		Total.			Number of Passengers (*exclusive of* Holders of Season and Periodical Tickets).						Number of Holders of Season and Periodical Tickets.
	Actual.	Average.	Actual.	Average.	Actual.	Average.		By First Class.	By Second Class.	By Intermediate Class.	By Third Class.	By Fourth or Coolie Class.	Total by all the Classes.	
GUARANTEED.														
East Indian, Main Line	410¼	410¼	869½	869½	1,280	1,280	285½	45,966½	120,846½	541,276½	6,256,962½	—	6,965,051	11,425½
East Indian, Jubbulpur Line	—	—	223¾	223¾	223¾	223¾	22	5,446½	23,437	5,473½	319,493	—	353,850	—
Great Indian Peninsula	325	325	943½	943½	1,268½	1,268½	200¼*	30,885	126,682	—	491,229	3,350,496	3,999,292	971½
Madras	37	37	858	858	895	895	93	13,634½	44,835	—	1,753,156½	813,513	2,625,139	84
Bombay, Baroda, and Central India	23	23	421	420½	444	443½	75	18,220	149,935	—	Mail. 440,634 Ordinary. 3,826,292	—	4,425,101	8,693
Sind, Punjab, and Delhi	4½	4½	659	659	663½	663½	103¼	18,987½	51,231	26,428	2,644,784	—	2,741,430½	2
South Indian	—	—	601	581	601	591	47	11,841	132,304	—	3,903,470	—	4,047,615	4
Eastern Bengal	—	—	159	159	159	159	—	26,633	48,863½	—	301,364	1,487,630	1,864,490½	2,461
Oudh and Rohilkund	—	—	547¾†	547¾	547¾	547¾	63¾	Upper 19,472	—	—	Lower 2,734,300	—	2,753,772	—
STATE.														
Calcutta and South-Eastern	—	—	28	28	28	28	6¾	201	3,573	—	551,533½	—	555,307½	—
Nalhati	—	—	27½	27½	27½	27½	1¾	1,024½	6,722	—	112,972½	—	120,719	—
Berar — Amraoti	—	—	6	6	6	6	¾	838	2,452	—	29,067	51,080	84,357	—
Berar — Khamgaon	—	—	8	8	8	8	¾	376	687	—	4,375	24,066	29,504	—
Punjab Northern	—	—	103	103	103	103	7¾	3,206	11,445	—	892,649	—	907,300	—
Northern Bengal	—	—	134	46¾	134	46¾	11	113	631	—	25,695	—	26,439	—
Rajputana	3	3	397	397	400	400	42¾	4,267	14,035	—	1,331,474	—	1,349,776	1
Neemuch	—	—	36½	36½	36½	36½	1¾	523	1,680	3,379	223,462	—	229,044	3
Nizam's	—	—	121	121	121	121	8¼	3,133½	7,373½	—	14,069½	231,210½	255,787	—
Wardha Valley	—	—	46½	36	46½	36	6¼	306	371½	—	2,455½	29,972½	33,105½	—
Tirhut	—	—	79	76½	79	76½	13½	2,763	5,440½	—	340,390	—	348,593½	—
Holkar	—	—	71	71	71	71	11	3,038	10,857	4,329	399,615	—	417,839	30
Totals for Railways	803¼	803¼	6,339¾	6,218½	7,143	7,021¾	1,014¾	210,875	763,420½	580,886	26,600,363	5,987,968	34,143,512½	23,675
Indus Steam Flotilla	—	—	—	—	—	—	—	298	226½	—	12,754	—	13,278½	—
Totals for Railways and Flotilla	803¼	803¼	6,339¾	6,218½	7,143	7,021¾	1,014¾	211,173	763,647	580,886	26,613,117	5,987,968	34,156,791	23,675

* Campoolee and Mopani Branches treated as sidings.

† Includes Nurora Branch (4 miles).

RECEIPTS and EXPENSES for the Year ended 31st December 1877.

RAILWAYS during the Year ended 31st December 1877.

Number of Live Stock.	Goods Traffic. Number of Tons of Minerals. Number of Tons of Coal and Coke.	Number of Tons of all other Minerals.	Total Number of Tons of Minerals.	Number of Tons of General Merchandise. Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special and Sundry.	Total of all Classes.	Railway.
											GUARANTEED.
17,268	624,022	—	624,022	1,615,948	165,600	48,457	20,159	5,422	90,543	1,946,129	East Indian, Main Line.
1	24,672	—	24,672	377,425	19,325	8,760	1,796	359	5,816	413,481	East Indian, Jabalpur Line.
366,845	5,717	—	5,717	119,682	177,822	31,629	16,223	5,126	1,158,529	1,509,010	Great Indian Peninsula.
17,628	74	—	74	120,194	53,140	13,623	4,504	1,213	796,391	988,965	Madras.
207,404	2,531 ‡ 80,137 ‡	22,950§	55,618	113,439	49,617	45,931	1,140	1,261	318,627	530,065	Bombay, Baroda, and Central India.
970	1,898	—	1,898	98,497	56,066	28,358	15,852	2,137	574,404	775,092	Sind, Punjab, and Delhi.
4,354	—	—	—	37,856	—	—	1,502	126	348,087	387,571	South Indian.
2,102	11,600	1,805	13,405	44,670	73,435	7,168	2,237	209	312,578	440,117	Eastern Bengal.
46	2,129	—	2,129	Low 63,946	—	Middle 31,914	—	High 2,692	533,386	631,938	Oudh and Rohilkund.
											STATE.
116	427	—	427	192	206	28	19	1	29,570	30,016	Calcutta and South-Eastern.
—	2,302	—	2,302	9,077	1,523	1,074	230	43	2,887	14,834	Nalhati.
—	—	—	—	3,344	19,275	1,262	80	94	20,210	44,265	Amraoti - Berar.
—	7	—	7	2,233	17,447	321	34	24	11,629	31,688	Khamgaon Berar.
290	—	—	—	44,842½	6,408½	3,739½	—	—	66,447	121,438½	Punjab Northern.
—	684	—	684	128½	106	117½	—	—	2,365½	2,716½	Northern Bengal.
48	534	—	534	96,638	4,974	2,161	—	—	101,378	205,151	Rajputana.
—	—	—	—	3,240	224	142	—	—	8,515	12,121	Neemuch.
293	—	—	—	7,744	6,031	2,761	423	155	86,986	104,100	Nizam's.
—	27,585	—	27,585	1,514	3,971	146	15	6	20,604	26,256	Wardha Valley.
—	1,195	—	1,195	6,732	1,525	575	—	—	28,106	36,938	Tirhut.
3	2	—	2	45,392	6,814	4,174	—	—	1,671	58,051	Holkar.
557,363	735,816	24,755	760,571	2,812,734	663,529½	232,289	63,999	18,862	4,518,529½	8,309,943	Totals for Railways.
—	—	—	—	—	—	—	—	—	—	62,625	Indus Steam Flotilla.
557,363	735,816	24,755	760,571	2,812,734	663,529½	232,289	63,999	18,862	4,518,529½	8,372,568	Totals for Railways and Flotilla.

‡ On Company's account.

§ Company's own materials.

TABLE No. 2.—STATEMENT of TRAFFIC on the INDIAN RAILWAYS

Railway.	Number of Engines and Vehicles used in conveying Traffic.												Number of Miles travelled in shunting, piloting,				
		Carriages.							Average Number of Vehicles in each Train.								
											In each Mixed Passenger and Goods Train.						
	Engines.	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth Class.	Total Number.	Trucks.	Carriages in each Passenger Train.	Trucks in each Goods Train.	Carriages.	Trucks.	By Passenger (including Special and Troop) Trains.	By Goods (including Construction Materials for other Railways) Trains.	By Mineral Trains.	By Mixed Passenger and Goods Trains. (P.)	By Mixed Passenger and Goods Trains. (G.)
GUARANTEED.																	
Indian, Main ne - -	465	84	85	142	312	—	623	5,387	17	30	16·75	5	1,220,517	4,904,822	277,451	1,170,550	299,141
Indian, Jabal-r Line - -	45	8	14	4	30	—	55	881	14·75	26	8·75	14·5	175,786	641,737	—	79,523	33,455
t Indian Penin-a - -	331	79	148	Com-posite 83	397	44	751	6,750	14·8	24·2	9·7	13·1	1,259,122	6,223,961	—	296,256	371,101
ras * - -	122	30	57	Com-posite 31	192	37	347	2,731	9	17	5	7	11,633	1,814,520	—	831,321	893,556
bay, Baroda, and entral India -	61	14	21	Com-posite 16	171	—	222	2,392	9·3	42·4	12	14·9	357,814	502,780	—	154,774	192,231
, Punjab, and lhi - -	82	41	55	19	203	—	318	2,876	14·6	33·45	10·34	15·66	325,784	875,653	—	369,523	169,616
h Indian - -	92	36	14	—	208	—	258	1,676	—	—	26		—	—	—	1,136,374	
ern Bengal -	33	29	16	—	50	56	151	740	14	43	8	27	197,940	263,040	—	93,254	102,471
h and Rohilkund	36	Upper 15	—	Com-posite 27	Lower 206	—	248	1,879	22·04	29·60	13·68	10·32	12,492	509,139	—	454,516	341,498
STATE.																	
utta and South-stern - -	4	4	—	—	47	—	51	164	15	16	8	14	13,868	2,866	—	13,744	17,372
nati - -	3	2	1	—	5	—	8	16	—	8	5	5	—	4,116	—	17,000	22,394
ar { Amraoti -	2	—	—	Com-posite 1	2	2	5	31	6	18	5	13	24	1,014	—	1,490	2,590
ar { Khamgaon -	2	—	—	Com-posite 1	2	2	5	31	9	18	4	7	8	312	—	3,752	4,344
jab Northern -	17	7	7	—	46	—	60	274	12·60	30·45	10·77	11·76	76,068	59,518	—	76,582	34,540
thern Bengal -	10	1	7	—	31	—	39	244	—	—	9	7	—	8,794*	—	13,808	9,559
putana - -	66	30	11	12	113	—	166	977	16·4	23·9	13·2	8·1	6,642	267,522	—	402,782	164,774
much - -	14	3	3	2	14	Break vans 5	27	38	14·6	—	11·66	2·6	13,545	—	—	22,275	3,567
am's - - -	8	4	3	Com-posite 1	12	10	30	64	20	20	11	11	1,940	153,228	—	54,733	84,323
rdha Valley - -	2	—	—	Com-posite 1	3	2	6	21	6	15	5	13	111	10,871	—	3,629	7,469
hut - -	10	1	7	—	16	—	24	262	21	20	9	8	3,512	3,228	24,820	57,242	33,931
olkar - -	24	8	6	3	51	Break vans 29	97	407	11·79	23·49	9·23	12·88	56,195	19,827	—	26,898	25,902
Totals and averages	1,469	396	455	343	2,111	187	3,492	27,781	9·88	24·36	8·95	11·13	3,738,001	16,266,457	302,271	4,147,151 1,136,374 5,283,179	2,814,654

* On construction account.

during the Year ended 31st December 1877—*continued.*

By Trains (except and assisting).			Number of Ton Miles (expressed in the Number of Tons moved One Mile).												
				Goods Traffic.											
					General Merchandise.								Proportion of Up and Down Traffic.		
By Trains conveying Materials for Revenue Purposes.	Total Number of Train Miles.	Number of Train Miles per open Mile.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Minerals.	First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Special and Sundry.	Total of all Classes.	Total Mineral and General Merchandise.	Up.	Down.	Railway.
															GUARANTEED.
197,613	8,069,594	6,305·60	2,123,392	130,518,500	503,198,466	67,638,185	16,625,216	7,496,021	1,580,626	30,389,609	626,928,123	757,446,623	35·70	64·30	East Indian, Main Line.
5,922	986,423	4,498·60	370,045	5,526,540	68,530,167	4,030,945	1,734,205	383,399	73,828	1,192,059	75,944,603	81,471,143	82·21	17·79	East Indian, Jabalpur Line.
—	8,150,440	6,425	3,049,646	534,148	34,711,088	55,730,088	9,678,353	3,170,408	1,766,693	453,744,419	558,809,949	559,344,097	69·2	31	Great Indian Peninsula.
—	3,551,039	4,139	1,404,273	3,645	19,302,165	9,930,086	2,313,919	1,053,818	264,708	126,881,165	159,745,801	159,749,446	65·43	34·57	Madras.
32,269	1,239,303	2,794	408,673	6,242,499	17,678,449	10,154,907	11,177,269	198,706	344,616	43,098,394	82,652,338	88,895,337	54·35	45·65	Bombay, Baroda, and Central India.
230,307	1,970,882	2,970·8	729,626	453,663	14,705,870	9,104,150	4,825,778	2,237,959	333,787	74,126,185	105,332,829	105,786,492	51	49	Sind, Punjab, and Delhi.
28,224	1,165,098	5,168	162,165	—	2,079,058	—	—	144,101	20,277	32,402,814	34,646,940	34,646,940	41	59	South Indian.
—	656,705	4,150	285,743	1,371,485	31,756	9,710,638	4,774,273	258,553	25,464	38,336,873	53,887,562	55,259,047	21·48	78·52	Eastern Bengal.
13,603	1,331,248	2,420·61	559,933	72,505	Low 6,896,130	—	Middle 3,558,341	—	High 361,136	56,325,630	66,941,237	67,013,742	—	—	Oudh and Rohilkund.
															STATE.
80	51,930	1,854·64	3,884	11,297	3,433	4,347	753	400	2	709,658	709,593	720,890	97·13	2·87	Calcutta and South Eastern.
—	44,010	1,615·05	10,194	60,716	192,531	41,008	29,044	6,235	1,151	73,841	343,310	404,526	66·21	33·79	Nalhati.
—	5,418	903	—	—	20,063	115,643	7,570	432	561	121,263	265,537	265,537	—	—	Amraoti } Berar.
—	8,416	1,036	1,393	56	17,387	139,570	2,563	275	193	93,029	253,502	253,558	—	—	Khamgaon } Berar.
—	246,708	2,385·93	107,127	—	3,293,361	555,209	329,933	—	—	1,834,508	6,018,011	6,018,011	32·03	67·97	Punjab Northern.
52	36,743	274	4,457	52,336	8,617	4,007	7,258	—	—	155,477	175,359	227,595	64·73	35·27	Northern Bengal.
50,755	892,475	2,252	378,470	76,890	19,344,736	779,027	372,331	—	—	14,349,158	26,845,252	26,922,142	47	53	Rajputana.
464	39,351	1,077	12,977	—	96,066	2,393	6,009	—	—	214,742	319,210	319,210	34·73	65·27	Neemuch.
—	244,224	2,027	—	—	738,371	620,228	311,052	40,974	17,418	8,361,201	10,089,244	10,089,244	—	—	Nizam's.
—	22,080	611	—	703,390	30,506	78,769	3,321	379	126	419,704	532,895	1,236,285	—	—	Wardha Valley.
—	122,723	1,604	48,636	35,625	251,099	69,641	25,015	—	—	1,077,033	1,422,334	1,458,459	33·90	66·10	Tirhut.
750	129,572	1,851	46,331	73	2,158,223	378,554	233,650	—	—	62,220	2,832,656	2,832,729	48·31	51·69	Holkar.
560,539	28,965,447	4,055	9,707,142	145,663,263	685,543,350	169,096,400	56,315,853	14,990,000	4,790,486	883,930,641	1,814,698,135	1,960,361,403	52·7	47.3	Totals and averages.

TABLE No. 3.—GROSS RECEIPTS of the INDIAN RAILWAYS

Railway.	Passenger Traffic.													Receipts from Live Stock.	Receipts from	
	Receipts from Passengers.							Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c., conveyed in Passenger Trains.	Receipts for Mail Service.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic.	Passenger Receipts per Train Mile.		From Coal and Coke.	From other Minerals.
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.									
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	£ (P.)	s.	£	£	£
East Indian, Main Line	40,899	39,992	41,807	644,948	—	4,862	772,508	72,260	3,362	28,497	15,118	886,745	7·417	1,928	322,055	—
East Indian, Jabalpur Line	6,380	5,804	2,152	58,064	—	—	72,400	10,966	974	7,130	7,639	99,109	7·764	1	11,785	—
Great Indian Peninsula	35,848	37,744	—	110,365	210,796	1,158	416,411	33,888	1,967	4,870	—	507,136	6·73	6,565	346	—
Madras	15,411	16,399	—	148,017	33,375	87	213,289	30,004	—	4,154	—	247,447	5·871	2,762	15	—
Bombay, Baroda, and Central India	4,871	10,466	—	Mail. 56,697 Ordinary. 123,397	—	4,413	200,342	14,136	165	241	4,767	219,653	8·57	12,318	707	*1,364
Sind, Punjab, and Delhi	13,200	16,267	4,447	176,978	—	12	210,904	23,230	1,030	1,239	—	236,403	6·80	201	1,500	—
South Indian	2,265	6,860	—	136,671	—	11	145,807	6,513	36	613	—	152,969	2·7	602	—	—
Eastern Bengal	3,773	3,024	—	20,107	76,105	1,225	104,234	13,411	70	31	—	117,746	8·09	39	3,896	278
Oudh and Rohilkund	Upper 7,269	—	—	Lower 154,258	—	—	161,527	10,977	—	365	—	172,869	7·40	17	236	—
STATE.																
Calcutta and South-Eastern	31	223	—	7,210	—	—	7,464	215	259	18	—	7,956	5·03	12	43	—
Nalhati	248	476	—	4,232	—	—	4,956	407	182	17	—	5,562	6·54	—	369	—
Berar: Amraoti	37	58	—	344	369	—	808	77	—	—	—	885	11·66	—	—	—
Berar: Khamgaon	22	20	—	69	238	—	349	43	—	—	—	392	2·08	—	1	—
Punjab Northern	1,006	1,312	—	28,000	—	—	30,318	1,782	1,646	143	—	33,889	4·44	62	—	—
Northern Bengal	54	126	—	1,335	—	—	1,515	86	—	—	—	1,601	1·74	—	271	—
Rajputana	2,004	2,344	—	72,908	—	28	77,184	6,786	5,193	508	—	89,671	4·38	27	325	—
Neemuch	79	123	130	5,340	—	14	5,686	261	182	—	—	6,129	3·42	—	—	—
Nizam's	1,549	2,030	—	2,921	16,311	—	22,811	4,428	—	—	—	27,239	9·61	15	—	—
Wardha Valley	40	29	—	99	703	—	880	73	—	—	—	953	5·10	—	2,566	—
Tirhut	638	641	—	13,048	—	—	14,327	837	175	27	—	15,366	5·06	—	208	—
Holkar	488	746	106	10,531	—	26	11,897	1,079	1,158	97	—	14,231	3·43	1	1	—
Totals and averages for Railways	136,121	164,684	48,642	1,776,439	337,897	11,836	2,475,619	231,459	16,399	42,950	27,524	2,843,951	7·21	24,550	344,264	1,642
Indus Steam Flotilla	2,138	374	—	5,749	—	—	8,261	761	—	—	—	9,022	—	—	—	—
Totals and averages for Railways and Flotilla	138,259	165,058	48,642	1,782,188	337,897	11,836	2,483,880	232,220	16,399	42,950	27,524	2,852,973	7·21	24,550	344,264	1,642

* Company's own materials carried on Capital Account.

during Year ended 31st December 1877.

Goods Traffic.																
Minerals.	Receipts from General Merchandise (*exclusive of* Live Stock and Minerals).									Total Miscellaneous Receipts.	Miscellaneous Receipts per Train Mile.				
Total Receipts from Minerals.	From First or Lowest Class.	From Second Class.	From Third Class.	From Fourth Class.	From Fifth or Highest Class.	From Special and Sundry.	Total.	Total Receipts from Goods Traffic.	Goods Receipts per Train Mile.	Total Receipts from Passenger and Goods Traffic.	Passenger and Goods Receipts per Train Mile.			Total Receipts from Passengers, Goods, and Miscellaneous.	Total Receipts per Train Mile.	Railway.
								(G.)		(P.)+(G.)		(M.)		(P.)+(G.)+(M.)		
£	£	£	£	£	£	£	£	£	s.	£	s.	£	s.	£	s.	GUARANTEED.
322,055	1,460,796	413,714	144,283	67,630	20,705	169,704	2,276,832	2,600,815	9·49	3,437,560	8·861	151,855	0·386	3,639,415	0·247	East Indian, Main Line.
11,785	207,495	25,636	15,053	4,139	930	6,391	259,694	271,480	7·487	370,549	7·559	55,539	1·133	426,148	8·693	East Indian, Jabalpur Line.
346	171,627	455,730	103,235	40,723	38,911	1,483,937	2,294,163	2,301,074	7·01	2,808,210	6·96	100,315	0·24	2,909,025	7·04	Great Indian Peninsula.
15	87,256	59,008	18,816	11,412	4,846	463,340	644,868	647,645	4·783	895,092	5·041	24,810	0·140	919,902	5·181	Madras.
2,071	88,462	64,970	94,750	2,831	7,167	165,308	423,538	437,927	12·60	657,580	10·89	57,320	0·95	714,900	11·84	Bombay, Baroda, and Central India.
1,500	74,651	63,223	42,511	27,748	4,031	252,523	465,317	467,013	8·93	703,421	8·08	60,311	0·70	764,232	7·7	Sind, Punjab, and Delhi.
—	12,320	—	—	1,722	543	129,980	144,565	145,167	2·5	298,136	5·2	11,717	0·28	309,853	5·4	South Indian.
4,174	20,782	63,246	6,050	3,150	599	167,478	261,255	265,468	14·52	383,214	11·67	16,087	0·49	399,301	12·16	Eastern Bengal.
236	Low 25,289	—	Middle 30,711	—	High 5,183	157,182	218,365	218,618	5·14	391,487	5·94	42,393	0·65	434,180	6·59	Oudh and Rohilkund.
																STATE.
43	19	41	10	8	—	2,692	2,770	2,825	2·79	10,781	4·16	1,068	0·41	11,849	4·55	Calcutta and South-Eastern.
369	1,298	453	463	177	51	371	2,813	3,187	2·36	3,749	3·98	197	0·09	3,946	4·07	Nalhati.
—	571	3,302	264	19	26	2,266	6,448	6,448	33·03	7,333	27·07	9	0·03	7,342	27·10	Amraoti — Berar.
1	318	2,563	58	7	6	1,241	4,193	4,194	18·02	4,536	10·90	78	0·18	4,664	11·08	Khamgaon — Berar.
—	18,960	4,574	3,336	—	—	6,983	33,853	33,915	7·21	67,904	5·49	1,943	0·14	69,647	5·64	Punjab Northern.
271	62	42	102	—	—	921	1,127	1,398	2·94	2,999	2·15	1,873	1·35	4,872	2·65	Northern Bengal.
325	72,099	8,036	5,968	—	—	85,969	171,132	171,484	7·93	261,155	6·20	8,116	0·18	269,265	6·03	Rajputana.
—	654	84	58	—	—	930	1,726	1,726	9·63	7,355	3·99	72	0·04	7,927	3·98	Neemuch.
—	4,262	4,888	3,946	588	399	34,641	48,724	48,739	5·20	75,978	6·22	157	0·01	76,135	6·23	Nizam.
2,506	271	1,012	55	8	3	2,240	3,589	6,095	6·65	7,048	6·38	33	0·03	7,131	6·46	Wardha Valley.
208	2,030	819	391	—	—	6,326	9,566	9,774	3·13	25,140	4·09	4,809	0·78	29,949	4·88	Tirhut.
1	15,311	4,002	3,802	—	—	700	24,815	24,317	10·63	38,548	5·98	1,353	0·21	39,901	6·15	Holkar.
345,906	2,264,893	1,175,483	473,067	160,212	84,080	3,141,123	7,298,858	7,669,314	8·17	10,513,265	7·69	541,319	0·403	11,054,584	7·63	Totals and averages for Railways.
—	—	—	—	—	—	—	—	129,330	—	138,352	—	—	—	138,352	—	Indus Steam Flotilla.
345,906	2,264,893	1,175,483	473,067	160,212	84,080	3,141,123	7,298,858	7,798,644	8·17	10,651,617	7·69	541,319	0·403	11,192,936	7·63	Totals and averages for Railways and Flotilla.

TABLE No. 4.—EXPENDITURE ON REVENUE ACCOUNT

Railway.	Maintenance and Renewal of Way and Works.				Cost of producing Locomotive Power by Wages and Materials.			Repairs and Renewals of Carriages and Waggons.			Coaching and Merchandise.			Collection and Delivery of Goods.			Rates
	Gross.		Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.
	Ordinary.	Special.															
GUARANTEED.	£	£	d.		£	d.		£	d.		£	d.		£	d.		£
East Indian, Main Line	275,956	—	8·41	7·58	265,864	8·11	7·30	108,286	3·30	2·98	239,410	7·30	6·58	—	—	—	4,857
„ Jabalpur Line	46,687	—	11·43	10·96	45,166	11·06	10·60	13,061	3·20	3·06	16,213	3·97	3·80	—	—	—	8
Great Indian Peninsula	147,571	8,768	4·63	5·20	556,695	16·39	18·53	213,555	6·28	7·10	197,311	5·86	6·56	332	0·01	0·02	958
Madras	96,271	14,604	7·49	12·05	197,898	13·36	21·49	64,257	4·34	6·98	71,006	4·80	7·72	3,919	0·27	0·43	943
Bombay, Baroda, and Central India.	70,658	17,094	16·98	12·28	88,503	17·13	12·38	20,932	4·05	2·93	52,017	10·07	7·28	2,100	0·41	0·29	693
Sind, Punjab, and Delhi	87,316	48,688	16·56	17·796	131,995	16·07	17·272	31,109	3·78	4·071	63,981	7·79	8·372	1,486	0·18	0·194	180
South Indian	17,181	—	3·5	5·54	72,163	14·9	23·29	12,568	2·5	4·05	26,414	5·4	8·53	—	—	—	552
Eastern Bengal	30,770	—	11·24	7·71	35,091	12·83	8·73	13,189	4·82	3·30	46,718	17·07	11·70	—	—	—	700
Oudh and Rohilkund	42,837	6,537	8·92	11·39	75,357	13·59	17·36	18,625	3·36	4·29	47,309	8·53	10·90	115	0·02	0·03	62
STATE.																	
Calcutta and South-Eastern	2,779	—	12·34	23·45	3,223	14·89	27·20	1,064	4·92	8·98	1,108	5·12	9·35	—	—	—	62
Nalhati	2,135	3,039	22·74	46·06	2,123	11·58	23·73	648	3·53	7·25	806	4·39	9·01	—	—	—	13
Berar — Amraoti	206	—	9·13	2·8	1,037	45·94	14·1	415	18·38	5·7	369	16·34	5·02	—	—	—	—
Berar — Khamgaon	444	—	12·7	9·5	1,099	31·3	23·6	439	12·5	9·4	331	11·1	8·4	—	—	—	—
Punjab Northern	7,862	8,025	15·47	22·82	19,416	18·88	27·88	3,274	3·18	4·70	9,160	8·92	13·16	—	—	—	—
Northern Bengal	*	*	*	*	2,439	15·93	50·06	108	0·70	2·22	1,696	11·08	34·81	—	—	—	—
Rajputana	33,739	8,490	12·70	13·82	71,171	19·14	26·43	14,191	3·81	5·24	23,844	6·41	8·85	—	—	—	—
Neemuch	1,782	—	10·73	22·48	2,117	12·75	26·71	131	0·79	1·65	1,048	6·31	13·22	—	—	—	—
Nizam's	10,106	—	9·93	13·27	22,021	21·64	28·9	3,309	3·66	11·6	7,830	7·69	10·3	—	—	—	—
Wardha Valley	1,019	—	11·08	14·29	1,834	19·93	25·7	734	7·98	10·3	652	7·09	9·1	—	—	—	—
Tirhut	3,405	—	6·65	11·37	6,133	11·9	20·48	603	1·17	2·04	4,474	8·74	14·94	—	—	—	57
Holkar	6,274	—	11·62	15·72	9,021	16·71	22·61	2,341	4·34	5·87	6,263	11·60	15·70	—	—	—	—
Totals and averages for Railways	889,965	114,345	8·3	9·08	1,610,172	13·5	14·56	528,339	4·61	4·77	818,020	6·93	7·4	7,952	0·05	0·07	9,085
Indus Steam Flotilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total and averages for Railways and Flotilla	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Not given in returns from India.

Note.—Since the foregoing tables were printed, a return relating to the Rangoon and Irrawaddy Valley Railway has goods to 768,175 tons. The receipts from passengers were 28,086*l.*, from goods 6,173*l.*, and from

during Year ended 31st December 1877.

and Taxes.		Compensation for Personal Injury, &c., Damage and Loss of Goods.				Legal and Parliamentary Expenses.			Miscellaneous Working Expenditure, not included in the foregoing.			Total Working Expenditure.			Railway.
Per Train Mile.	Per cent. of Gross Receipts.	Gross.		Per Train Mile.	Per cent. of Gross Receipts	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	
		Personal.	Goods.												
d.		£	£	*d.*		£	*d.*		£	*d.*		£	*s.*		GUARANTEED.
0·15	0·13	—	28,049	0·86	0·77	1,071	0·03	0·03	212,730	6·49	5·85	1,130,223	2·89	31·22	East Indian, Main Line.
0·002	0·001	250	216	0·11	0·11	18	0·004	0·003	37,211	9·11	8·73	158,830	3·24	37·27	Ditto, Jabalpur Line.
0·02	0·03	—	32,764	0·96	1·09	1,782	0·05	0·05	221,657	6·52	7·37	1,391,393	3·59	43·98	Great Indian Peninsula.
0·06	0·10	4,809	956	0·39	0·63	1,396	0·09	0·15	89,320	6·04	9·71	545,179	3·07	59·26	Madras.
0·14	0·09	—	130	0·03	0·02	315	0·06	0·04	47,613	9·21	6·66	300,055	4·84	41·97	Bombay, Baroda, and Central India.
0·021	0·023	59	101	0·019	0·021	412	0·050	0·054	55,542	6 76	7·268	420,369	4·27	55·071	Sind, Punjab, and Delhi.
0·13	0·17	—	176	0·03	0·05	56	0·01	0·01	30,316	6·1	9·79	159,432	2·73	51·45	South Indian.
0·25	0·17	—	3,871	1·41	0·97	108	0·03	0·03	26,995	9·87	6·76	157,442	4·79	39·42	Eastern Bengal.
0·01	0·02	—	193	0·04	0·04	467	0·08	0·11	35,818	6·48	8·25	227,420	3·42	52·38	Oudh and Rohilkund.
															STATE.
0·29	0·52	—	10	0·05	0·09	—	—	—	1,439	6·65	12·15	9,685	3·73	81·74	Calcutta and South-Eastern.
0·07	0·15	—	79	0·43	0·88	1	0·008	0·01	1,144	6·24	12·79	8,988	4·08	100·48	Nalhati.
—	—	—	69	3·06	0·98	—	—	—	415	18·38	5·7	2,511	9·27	34·2	Amraoti — Berar.
—	—	—	73	2·1	1·6	—	—	—	439	12·5	9·4	2,885	6·85	61·9	Khamgaon — Berar.
—	—	82	750	0·80	1·18	8	0·007	0·01	11,264	10·95	16·17	59,841	4·85	85·92	Punjab Northern.
—	—	—	—	—	—	—	—	—	2,592	16·98	53·20	6,835	3·72	140·29	Northern Bengal.
—	—	—	110	0·03	0·04	23	0·004	0·002	26,926	7·24	10·01	133,494	4·11	66·14	Rajputana.
—	—	—	1	0·01	0·02	—	—	—	1,470	8·85	18·55	6,549	3·29	82·62	Neemuch.
—	—	—	1,468	1·44	1·9	—	—	—	8,309	8·66	11·6	59,040	4·83	77·5	Nizam's.
—	—	122	—	1·33	1·7	—	—	—	781	8·49	10·9	5,142	4·66	72·1	Wardha Valley.
0·11	0·20	—	24	0·46	0·68	—	—	—	6,195	12·1	20·65	30,891	3·40	69·76	Tirhut.
—	—	—	397	0·73	0·98	9	0·001	0·002	6,106	11·31	15·39	30,411	4·69	76·72	Holkar.'
0·06	0·08	5,322	69,437	0·52	0·67	5,666	0·04	0·05	824,782	6·98	7·5	4,883,115	3·37	55·83	Totals and averages for Railways.
												97,770	—	70·668	Indus Steam Flotilla.
												4,980,885	3·37	55·86	Total and averages for Railways and Flotilla.

been received. It applies to the first eight months after its opening. The passengers carried amounted to 413,521, the miscellaneous 186*l.* Total 34,445*l.* The expenses were 44,558*l.* The result was a loss of 10,113*l.*

SUMMARY.

100. The principal facts given in the foregoing pages may now be briefly summed up.

101. The length of railway now open in India is 7,551½ miles, of which 492½ were completed during the year 1877, and 225 since the close of the year. There are 806½ miles laid with a double line; 5,912¾ miles are constructed on the 5 ft. 6 in. gauge, and 1,638¾ on narrower gauges. The most important operations have been connected with the State lines, to which 580 miles have been added. The line which proceeds through Northern Bengal towards the Hills at Darjeeling, the Dhond and Manmád, and that between Rangoon and Prome, have been opened for traffic. The Punjab Northern line has also been finished to Jhelum, and the South Indian has been extended 132¾ miles. The Indus Valley will be ready for traffic in the course of this year.

102. The capital outlay on the State lines amounted to 3,122,051*l.*, and on the Guaranteed lines to 1,374,882*l.*, bringing the total capital expenditure up to the end of October as regards the State, and to the end of March last as regards the Guaranteed lines, to 113,144,541*l.* The expenditure up to the end of the year may be taken in round numbers at 113,344,500*l.*

103. The revenue derived from all the open lines during the year was 6,232,888*l.*, of which 6,091,532*l.* was earned by the Guaranteed lines, with a capital of 95,482,941*l.*, and 141,356*l.* was earned by the State lines, on a capital expenditure of 17,661,600*l.* The net receipts from the Guaranteed lines exceeded the amount advanced for guaranteed interest by 1,454,591*l.*; the year before there was a deficit of 216,517*l.* The average receipts per cent. for the year were 5*l.* 5*s.*; the maximum earned was 9*l.* per cent., by the East Indian. The Eastern Bengal yielded 8*l.*, the Great Indian Peninsula 6*l.* 10*s.*, and the Bombay, Baroda, and Central India 5*l.* 6*s.* 4*d.*, per cent per annum.

NET EARNINGS of the INDIAN RAILWAYS during 1877.

Railway.	Amount.	Per Train Mile.	Percentage of Net Earnings to Gross Receipts.
GUARANTEED.	£	*s.*	
East Indian, Main Line	2,503,342	6·36	68·78
„ Jabalpur Line	267,325	5·45	62.73
Great Indian Peninsula	*1,527,640	3·96	53·93
Madras	374,723	2·11	40·74
Bombay, Baroda, and Central India	414,845	6·69	58·03
Sind, Punjab, and Delhi	383,944	3·48	44·92
South Indian	152,205	2·58	48·55
Eastern Bengal	260,747	7·37	60·58
Oudh and Rohilkund	206,761	3·11	47·62
Total for Guaranteed Railways	6,091,532		
STATE.			
Calcutta and South-Eastern	2,164	·83	18·26
Berar { Amraoti	4,831	17·13	65·79
Berar { Khamgaon	1,779	4·23	38·13
Punjab Northern	9,806	·79	14·79
Rajputana	85,771	1·92	31·85
Neemuch	1,378	·69	17·38
Nizam's	17,095	1·40	22·48
Wardha Valley	1,989	1·81	27·87
Tirhut	9,058	1·47	30·24
Holkar	9,490	1·46	23·78
Deduct for losses†	— 2,005		
Total for State Railways	141,356		
Total for all Railways	6,232,888		

* The receipts from the lines worked by this Company are deducted.

† The Nalhati and Northern Bengal State Railways were worked at a *loss* of 42*l.* and 1,963*l.* respectively.

104. These large receipts were obtained at a less proportionate expenditure than in any previous year. The aggregate earnings were 11,236,121*l.*, and the working expenses 5,003,233*l.*, being an average of 44 per cent. of the gross receipts. The receipts from passengers were 2,844,000*l.*, from goods 7,675,414*l.*, and from miscellaneous sources 716,707*l.* Compared with the previous year the net revenue showed an improvement of 1,686,914*l.* The expenses of the East Indian (main line) were only 31 per cent. of the gross receipts. Those of the Eastern Bengal 41, of the Great Indian Peninsula 48, of the Madras 59.

105. The number of passengers carried was 34,143,512, with an average mileage open of 7,021¾ miles, compared with 30,535,319 of the previous year, with a mileage of 6,694. The proportion per cent. of the first class was ·63, of the second 2·23, and of the lower classes 97·14

106. The weight of goods carried amounted to 8,309,943 tons, compared with 5,794,949 of the previous year.

107. The proportion per cent. of the gross revenue from passengers was 25·77, and from merchandise, including minerals, 69·37.

108. The operations of the year have been especially marked by the important part railways have played in connection with the famine. We had the phenomenon of great scarcity in the south and plenty in the north, which led to large quantities of grain being moved from one end of the country to the other. The receipts from this source were a substantial set off against the very heavy charges incurred by the Government in the relief of famine. The railways were thus instrumental, not only in alleviating distress and preserving life, but in reducing expenditure. It may be computed that about 600,000*l.* of last year's receipts are due to famine traffic, but it should at the same time be borne in mind that this was realized at the expense of other more profitable traffic, which was excluded by an insufficiency of rolling stock, and by the preference necessarily given to the conveyance of grain over other commodities while the demand for food existed. With the exception of this slight extraneous favour the supplies were obtained entirely through the natural course of trade. There was no artificial stimulus, and no attempt to regulate prices. The producers and traders of the favoured parts of the country despatched goods to those places where prices showed that the demand was great. While, therefore, the fact that much of last year's financial success was due to exceptional causes should, on the one hand, prevent too sanguine a conclusion being arrived at with regard to the immediate future, it should, on the other hand, be remembered that the circumstances which led to large profits interfered with the ordinary trade of the country, and lost to the railways much that they would otherwise have received. It may also be mentioned that the export trade in articles which are brought down by the railways to the coast has been steadily increasing during the year.

109. During the twelve months ending on the 31st March last, 15,600,291 lbs. of cotton twist exported from India, compared with 7,926,710 of the previous year, and 17,546,369 yards of piece goods, compared with 15,544,168, show how the demand for certain manufactured goods in eastern countries is being met from Indian resources. In linseed, exported principally for the United Kingdom, we find 7,198,918 cwt., compared with 5,614,617, and in rape seed 3,193,488 cwt., as against 2,088,760. The wheat trade with this country has also been maintained during the year, 6,340,150 cwt. having been exported, principally to London, as compared with 5,583,336 in 1876–77, and 2,498,185 of 1875–76. Exports of tea have also increased from 24,361,599 lbs. in 1875–76 to 33,459,075 lbs. in 1877–78.

110. Bearing these facts in mind, it may not be uninteresting to recall to remembrance the words of Lord Dalhousie when, twenty-five years ago, he was advocating the commencement of a system of railways, which has now been nearly completed, but which has not yet arrived at maturity. "Great tracts," he said, "are teeming with produce they cannot dispose of. Others are scantily bearing what they would carry in abundance "if only it could be conveyed whither it is needed. Every increase of facilities for "trade has been attended, as we have seen, with an increased demand for articles of "European produce in the most distant markets of India, and we have yet to learn "the extent and value of the interchange which may be established with people "beyond our present frontier, and which is yearly and rapidly increasing. Ships "from every part of the world crowd our ports in search of produce which we have "or could obtain in the interior, but which at present we cannot profitably fetch to

" them, and new markets are opening to us on this side of the globe, under circum-
" stances which defy the foresight of the wisest to estimate their probable value or
" calculate their future extent."

I have the honour to remain,
My Lord,
Your Lordship's very obedient humble Servant,
JULAND DANVERS.

LONDON:
Printed by GEORGE E. EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty.

THE
RILWAYS
OF
NDIA
CHINESE EMPIRE
TIBET
AFGHANISTAN
KASHMIR
BHOTAN
ASSAM
BRITISH BURMAH
CENTRAL
BERAR
HYDERABAD
MYSORE
BOMBAY
CALCUTTA
MADRAS
CEYLON
ARABIAN SEA
BAY OF BENGAL
INDIAN OCEAN
Lassa
Kabul
Bhamo
Andaman I.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1878-79.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
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FOR HER MAJESTY'S STATIONERY OFFICE.

1879.

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REPORT.

To the Right Honourable the VISCOUNT CRANBROOK.

MY LORD, India Office, 30th June 1879.

I HAVE the honour to submit to your Lordship the following Report on the progress which has been made in Railway operations during the year 1878.

Progress in 1878.

2. A further length of 995¼ miles has been opened, making a total distance of 8,215 miles on which traffic is being conducted. Of this, 6,459¾ miles are on the 5 ft. 6 in. gauge, 1,708 on the metre, 27¼ on a 4 feet, and 20 on a 2 ft. 6 in. gauge.

Indus Valley

3. The principal additions which have been made to the system during the year consist of the Indus Valley State Railway, and extensions of the Northern Bengal State Railway. The Indus Valley line was opened throughout in September. It is 499 miles in length, and extends along the right bank of the river from Kotri, the terminus of the Sind Railway, to Sukkur. It will here be carried across the Indus by a bridge, the design for which is now under consideration. From the opposite side of the river, at Rohri, the line continues along the left bank until it reaches the terminus of the Punjab Railway at Mooltan, crossing in its way the River Sutlej by the "Empress" bridge, which was opened by Sir Andrew Clarke, the Member of Council for Public Works in India, in June 1878. Traffic is now being conducted between Kurrachee and Delhi, the time occupied by the mail being about 54 hours.

Northern Bengal.

4. A length of 97¾ miles was added to the Northern Bengal Railway, which is now worked from the foot of the Darjeeling hills at Siliguri to Poradaha on the Eastern Bengal Railway, the passage of the Ganges, a few miles from the junction of the two lines, being effected by a steam ferry. It is proposed to extend railway communication up to Darjeeling itself by means of a steam tramway or light railway. A Company has been formed in India for the purpose, and Natives as well as Europeans have joined in subscribing to the undertaking, which it is estimated will cost Rs. 15,00,000.

South Indian.

5. In Madras the South Indian Railway system has been brought almost to completion. A short section of 13 miles has been opened during the year, and it is expected that the 4½ miles of the line between Madras and Trichinopoly, which includes the bridge over the Coleroon river,* will very soon be ready. An additional length of 21 miles has recently been added to the system by sanctioning the completion of the branch line between Arconum and Conjeveram, which stopped short at Chingleput. By adopting the metre gauge for this branch, and by the conversion to the same gauge of the Erode and Trichinopoly section, the whole system is on one uniform gauge.

Pondicherry branch.

6. The branch from the South Indian Railway to the French settlement of Pondicherry has been put in hand. Mr. White, the Deputy Chief Engineer to the Company, has been appointed to carry out the entire work, both on the French and English sections.

New Nerbudda Bridge.

7. The new Nerbudda Bridge, on the Bombay, Baroda and Central India Railway, which was described in my report of 1877, has made rapid progress, and is on the eve of completion. It was commenced in that year, and the monthly reports which have

* Since writing the above, intelligence has been received of the completion of this section, including the bridge over the Coleroon river.

been received, in the shape of photographic views of the state of the works, have testified to the steady energy of those who were entrusted with its execution. The bridge was designed by Sir John Hawkshaw, and its erection has been carried out by Mr. H. B. Hargrave, under the general superintendence of Mr. Mathew, the Agent and Chief Engineer.

Railways projected in the Punjab.

8. Various railways have been projected and some are in progress. In the Punjab, the works on the 70½ miles between Jhelum, the present terminus of the Punjab Northern, and Ráwalpindi are going on, as well as on a metre gauge line from Lála Músa to Chak Nizam (48½ miles), opposite the Salt Works near Pind Dadan Khan, and surveys have been made for the extension of the former line to Peshawar.

Western Rajputana.

9. Good progress is being made with the important line south of Ajmere to Ahmedabad, which will form the most direct line of communication between Bombay and the North-West of India. There will be a break of gauge at Ahmedabad, the point of junction with the Bombay, Baroda and Central India Railway.

Provincial Railways.

10. Several provincial lines are likewise progressing. Among these are the Patna and Gya Railway, the branch from the East Indian Railway at Dildarnagar to the river Ganges opposite Ghazipur, the railway from Cawnpore to Farrukhabad, 87 miles in length, which was commenced as a famine work, and the extension of the Muttra railway to Achnera on the Rajputana line. In the Central Provinces, the line between

Nágpur and Chattisgarh.

Nágpur and Chattisgarh is also in hand.

Bridge over the Ganges at Benares.

11. One work of great importance, which has been referred to in previous reports as being much needed to improve the value of the Oudh and Rohilkund railway, has now been sanctioned, viz., the bridge over the Ganges at Benares. When finished it will connect in the most favourable way the railway system of those provinces with the East Indian Railway and Calcutta. Its execution has been placed in the hands of the Oudh and Rohilkund Railway Company, who have undertaken to raise the necessary capital for the purpose, and will commence operations immediately. Already borings have been made. These shew that the foundations will have to be taken to a great depth (something like 80 feet) below the bed of the river. The railway has been recently brought to the bank of the river at Benares, just opposite to where it will join the East Indian Railway.

Railways in Native States.

12. Certain Native States are shewing a promptitude and intelligence in the promotion of railways which will contribute to their prosperity and increase the general trade of the country. The Nizam's Government has already a line which connects the capital, Hyderabad, with the railway system of India. The Baroda State has commenced a series of branches, on a gauge of 2 ft. 6 in., to the Bombay, Baroda and Central India Railway, and is considering the question of further extending railway communication in the Gaekwar's territory. In Kattywar also the Chiefs have made arrangements for commencing a railway between Bhaunagar, Dhoraji, and Wadhwan, on the Bombay, Baroda and Central India Railway. The management is to be in the hands of the representatives of the Bhaunagar and Gondal States and a British officer. The cost is to be defrayed from funds in possession of those States, and not with borrowed

Mysore and Bangalore.

money. The line between Bangalore and Mysore, 88 miles in length, has been surveyed and laid out; and during the famine the earthwork between Mysore and Seringapatam, about 9 miles, and from Bangalore to Channapatna, 34 miles, was commenced for relief purposes, but the progress of the line has been checked in consequence of a preference having been given to irrigation works, funds not being available for both at once.

Railway in Travancore.

13. The project for a railway in the Province of Travancore, in extension of the South Indian Railway, having been submitted to the Sirkar of that State, much credit is due to the advisers of the Maharaja for the care and circumspection with which the proposition was received. The scheme was to construct a line either from Covilputty or Tinnevelly on the South Indian Railway to Trevandrum or Quilon, on the Malabar coast, *viâ* Shencottah and the Ariankaon Pass over the Warkallai hills, which bound Travancore on the east. The following very sensible inquiries were made by N. Nanoo Pillay, the Dewan, through the British Resident at Travancore, before he felt himself in a position to come to a determination on the proposal. In a letter dated the 25th November last, he writes:—

"The papers have been duly submitted to His Highness the Maharaja.

"Though fully alive to the importance of placing Travancore in easy communication with the rest of India, His Highness still feels that a little State like this should not enter upon a project of such magnitude till we are satisfied that our engagements can be fully met without embarrassment to our finances, and till we are in possession of sufficient data on which a judgment could be formed as to whether the advantages would be at all commensurate to the outlay.

* * * * * *

"I shall be obliged if you will kindly procure for me from the British authorities information on the following points:—(1.) The cost of construction per mile of the South Indian Railway (metre gauge), including rolling stock. (2.) The probable cost per mile of a similar line carried over ground, such as the proposed Travancore line has to traverse, that is, over a hilly country. (3.) The charges of maintenance and working per mile of the South Indian Railway. (4.) The returns per day per mile on (*a*) passenger traffic, (*b*) on goods, giving also number of passengers and quantity of goods. (5.) The value of land per mile taken up by the railway, independent of charges of construction, (*a*) where the land is waste, yet having to be paid for as private property, (*b*) where it is cultivated, either as garden land or paddy fields. (6.) Did the Company purchase the land, or was value paid by Government? (7.) The Tinnevelly traffic (passengers and goods) that now uses our trunk road through Nagercoil, and the road from Shencottàh to Quilon. This will be useful as a check on our own returns. (8.) During what months are the ports of Tuticorin and Negapatam closed, and could any of the sea-borne trade of those districts be expected to run into our ports of Quilon and Alleppey, and if so to what extent? (9.) What is the charge of carrying a ton of goods per mile on the South Indian line? (10.) The average charge of conveyance of a passenger for the same distance. (11.) Who pays the railway police, Government or the Company, and what are the charges for every ten miles? (12.) Any information that could be obtained in regard to the arrangements that are made in Mysore and the Nizam's dominions for the levy of duty on articles going out or coming in by the railway will also be very acceptable."

Marmagoâ and Bellary Railway.

14. The scheme mentioned in last year's report for a line from the Portuguese port of Marmagoâ or Marmagaum to the Tinai Ghat on the British frontier, and from thence through Dharwar, Hubli, Gadak, to the Bellary station of the Madras line, has fallen through. It will be recollected that certain concessions were made to the projector, Mr. Campbell, by the Government, and that the terms of a contract were settled between him and the Secretary of State which was to come into force provided a Joint Stock Company was formed to carry out the project, and that sufficient capital was forthcoming for the purpose within twelve months from the 27th April 1878. The time elapsed, and no proof was produced as to the existence of any such Company as that proposed. So far, therefore, as this attempt to apply "almost unaided "private enterprise to railway construction in India" is concerned, it has failed. Another opening has, however, recently been made for the introduction of a railway in those districts.

15. By a Treaty of commerce which has recently been entered into between this country and Portugal, after providing for reciprocal freedom of commerce, navigation, and transit, and for the opening of ports, harbours, roadsteads, and rivers in the Indian dominions of each, on the same conditions as those on which they are open to the subjects of the contracting party in whose dominions they are, it has been agreed that whenever the British Government shall receive notice from the Portuguese Government that a concession has been granted by them to a joint stock Company for the construction and maintenance, within the Portuguese territory, of a railway from the Port of Marmagaum towards the town of New Hubli, and that measures will be taken for rendering that port safe and suitable for purposes of commerce, the Government of India will, on being satisfied that such concession is suitable and sufficient, and that capital for the undertaking is forthcoming, enter into a contract with the said Company for the grant of the necessary land for the portion of the line lying within British territory: for affording all facilities for the making and working of the line: for the conveyance of the mails by the Company: for the construction of telegraphs by the Indian Government; and for the construction of a railway to Karwar and to any other place in India from any point on the line. In the event of such a contract being made within two years from the date of the Treaty (26th December 1878) or otherwise previous to the completion by the Indian Government of a State Railway between Hubli and Bellary, the Indian Government will include in such contract the

right of the Company to complete the line between those places, upon the same terms as those applicable to the portion between the Portuguese frontier and New Hubli, or to take over on equitable terms any portion of the said line then completed, or under construction. If it should be considered desirable to ascertain the comparative advantages of the line from Marmagaum to Hubli, and of one from the Port of Karwar to Hubli, a mixed Commission is to be appointed, which shall, after due investigation, report upon which is preferable. In the event of no Company being formed or receiving a concession for the line from Marmagaum to New Hubli, and in the event of the report of the Commission being favourable to that line, the contracting parties engage to adopt such measures as may be found feasible to ensure its construction.

Railways remaining to be finished.

16. Of railways under construction, about 1,020 miles remain to be finished. Half of this length will probably be opened for traffic in the course of a year. An uncompleted length of 165¼ miles, which formed part of the original scheme of the Oudh and Rohilkund system, and consisting of the line from Akbarpur to Buxar, 118¼ miles, and the branch to Ramnagar, 47 miles, has now been relinquished, and the bridge at Benares, which was not included in the contract with that Company, has been substituted. The northern extension of the Oudh and Rohilkund Railway from Moradabad to a point on the Punjab Railway has not yet been determined on, and will probably be postponed for the present on account of financial exigencies. This cause will delay the execution of many works which might otherwise be more rapidly undertaken; but the intention to extend railway communication, where it may be profitably introduced at some future time, has not been relinquished, and the Public Works Member of Council, Sir Andrew Clarke, in revision of the scheme proposed by the late Lord Lawrence when Viceroy in 1869, has sketched a plan as a guide for future action, including strategical lines, as well as main lines of communication, lines in connexion with Native States and Provincial lines, with a view of measures being taken for carrying it out by degrees as circumstances permit.

17. The following Table gives the length of each railway which has been sanctioned, completed, or is in course of construction or of survey:—

Railway.	Gauge.	Length of Line sanctioned.	Length opened during 1878.	Total Length opened on 31st. Dec. 1878.	Portion laid with Double Line.	Length remaining to be finished.
GUARANTEED.		Miles.	Miles.	Miles.	Miles.	Miles.
East Indian — Main line (*a*)	5′ 6″	1,279½	—	1,279½	410¼	—
East Indian — Jabalpur line	5′ 6″	223¾	—	223¼	—	—
Great Indian Peninsula	5′ 6″	1,280¼	—	1,280½	325	—
Madras	5′ 6″	857	—	857 (*b*)	42½	—
Bombay, Baroda and Central India	5′ 6″	421¼	—	421¼	23¼	—
Sind, Punjab and Delhi — Punjab and Delhi	5′ 6″	553¾	—	553¾	—	—
Sind, Punjab and Delhi — Sind	5′ 6″	109¾	—	109¾	4½	—
South Indian	3′ 3⅜″	638	13	612¾	—	25½
Eastern Bengal	5′ 6″	159	—	159	—	—
Oudh and Rohilkund	5′ 6″	546¾	3	546¾	—	—
Totals for Guaranteed Railways		6,069½	16	6,044	805½	25½
STATE.						
Bengal Provincial :—						
Calcutta and South-Eastern	5′ 6″	28	—	28	—	—
Nalhati	4′ 0″	27¼	—	27¼	—	—
Northern Bengal	3′ 3⅜″	239	97¾	232	—	19½
Northern Bengal	5′ 6″ (*c*)	12½				
Northern Bengal	3′ 3⅜″	76¼	—	79	—	—
Tirhut	5′ 6″ (*d*)	2¾				
Patna-Gya	5′ 6″	58	—	—	—	58 (*e*)
Assam	—	— (*n*)	—	—	—	—
Western System :—						
Punjab Northern	5′ 6″	173¾	103¼ (*f*)	103¼	—	119
Punjab Northern	3′ 3⅜″	48¼	—	—		
Indus Valley	5′ 6″	500½	499	499	—	1¼
North-Western Provinces, Provincial :—						
Muttra-Hathras	3′ 3⅜″	29	—	29	—	—
Cawnpore-Farrukhabad	3′ 3⅜″	87	—	—	—	87
Dildarnagar-Ghazipur	5′ 6″	12	—	—	—	12 (*e*)
Central System :—						
Rajputana	3′ 3⅜″	419	—	400	—	19
Western Rajputana	3′ 3⅜″	299½	35¾	35¾	—	263¾
Sindia	5′ 6″	74¾	34	34	—	40¾
Neemuch	3′ 3⅜″	303½	49½	86	—	217½
Holkar	3′ 3⅜″	86	15	86	—	—
Native States :—						
Gaekwar of Baroda's	2′ 6″	55¼	—	20	—	35¼
Khamgaon (*g*)	5′ 6″	8	—	8	—	—
Amraoti (*g*)	5′ 6″	6	—	6	—	—
Nizam's	5′ 6″	121	—	121	—	—
Mysore	3′ 3⅜″	— (*m*)	—	—	—	—
British Burmah :—						
Rangoon and Irrawaddy Valley (*h*)	3′ 3⅜″	163	—	163	—	—
Rangoon and Sittang Valley	3′ 3⅜″	— (*i*)	—	—	—	—
Bombay :—						
Dhond-Manmád (*k*)	5′ 6″	145	145	145	—	—
Karwar	3′ 3⅜″	— (*l*)	—	—	—	—
Patri (*o*)	5′ 6″	22½	—	22½	—	—
Central Provinces :—						
Wardha Valley	5′ 6″	46¼	—	46¼	—	—
Nagpur and Chattisgarh	3′ 3⅜″	123¼	—	—	—	123¼
Totals for State Railways		3,167¼	979¼	2,171	—	996¼
Totals—Guaranteed and State Railways		9,236¾	995¼	8,215	805½	1,021¾

(*a*) This includes the loop and the chord lines with their branches, 74⅛ miles in length. By the loop line the distance from Howrah to Delhi is 1,018¾ miles. By the chord line, the length of which is 186¼ miles, the distance is 954½ miles.
(*b*) This has been found after re-measurement to be the correct mileage.
(*c*) The Poradaha Section (12½ miles) is on the 5′ 6″ gauge.
(*d*) The Barh Branch (2¾ miles) is on the 5′ 6″ gauge.
(*e*) Will probably be opened this year (1879).
(*f*) This line was opened in October 1878 as a *broad gauge* line. It was originally (1875–76) constructed and opened on the *metre gauge*.
(*g*) These branches were constructed from the surplus revenues of Berar.
(*h*) An extension from Prome to Allanmyo is under consideration.
(*i*) Under survey. Proposed length, 161⅓ miles.
(*k*) This chord line connects the railway systems of Northern and Southern India without the necessity of ascending and descending the Western Ghâts.
(*l*) Under survey. Proposed length, 264½ miles.
(*m*) Under survey. Proposed length, 88 miles.
(*n*) Under survey. Proposed length, 47 miles.
(*o*) Branch of, and worked by the Bombay, Baroda and Central India Railway.

18. The following statement exhibits the annual progress made in the construction of railways since their commencement:—

Railways.	Length of Line open at the end of each Year.																								
	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.
GUARANTEED.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
East Indian (including Jubulpur)	—	37½	120½	120½	120½	139½	280½	370½	550½	877½	933	1,104	1,127½	1,127½	1,353	1,353	1,353	1,353	1,503½	1,503½	1,503½	1,503½	1,503½	1,503½	1,503½	1,503½
Eastern Bengal	—	—	—	—	—	—	—	—	—	109½**	109½	109½	109½	109½	109½	112	112	112	157	157	157	159	158½‡	159	159	159
Oudh and Rohilkund	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	42	42	42	42	203½	450½	540½	543½	543½	543½	546½
Sind, Punjab and Delhi { Delhi	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53½	53½	271½	303½	553½	553½	553½	553½	553½	553½	553½	553½
Sind, Punjab and Delhi { Punjab	—	—	—	—	—	—	—	—	—	32	45‖	45	253	253	246	246	246	250								
Sind, Punjab and Delhi { Sind	—	—	—	—	—	—	—	—	109½	109½	109½	109½	109½	113	113	113	113	113	113	109½	109½	109½	109½	109½	109½	109½
Madras	—	—	—	65	80½	95½	95½	137	296½	447½	447½	370	609½	643½	643½	675½	705½	781½	850½	830½	868	858	858	853	853	857††
South Indian { Great Southern of India	—	—	—	—	—	—	—	—	48½	82	82	82	82	126½	143½	167	167	167	167	167	167	} 185½	281½	474½	599½	612½
South Indian { Carnatic§	—	—	—	—	—	—	—	—	—	—	—	—	18½	18½	18½	14½	18½	18½	18½	18½	18½					
Great Indian Peninsula	20½	33½	49½	87½	87½	109½	244½	297	437½	495	552½	585½	701½	815½	852½	873½	873½	1,258½	1,273½	1,278½	1,278½	1,278½	1,278½	1,278½	1,280½¶	1,280½
Bombay, Baroda and Central India	—	—	—	—	—	—	—	35	134	167½	185	305½	305½	305½	305½	306½	307½	312½	340½	380½	389½	406	407½	416½	421½	421½
STATE.																										
Calcutta and South-Eastern	—	—	—	—	—	—	—	—	—	15	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
Nalhati	—	—	—	—	—	—	—	—	—	—	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½
Northern Bengal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	134½	232
Tirhut	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53*	45	45	79	79†
Punjab Northern	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	62	103½	103½	103½
Indus Valley	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	409
Muttra-Hathras	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	29	29	29
Rajputana { Delhi District	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	58½	142	} 379½	400	400	400
Rajputana { Agra "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33	150				
Sindia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34
Western Rajputana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35½
Neemuch	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36½	36½	86
Holkar	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	57	71	71	86
Patri	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22½	22½	22½	22½	22½
Gaekwar of Baroda's	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20	20	20	20	20	20
Khamgaon	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	8	8	8	8	8	8	8	8
Amraoti	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	6	6	6	6	6	6	6
Wardha Valley	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18½	18½	18½	46½	46½
Dhond-Manmad	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	145
Nizam's	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121	121	121	121
Rangoon and Irrawaddy Valley	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	163	163
Totals	20½	71	170	272½	288½	428½	626½	839½	1,587½	2,335½	2,520	2,967	3,373	3,569	3,936½	4,016½	4,265	4,775½	5,077½	5,370½	5,695	6,227½	6,510	6,833	7,324	8,215

* A temporary line (53 miles) was constructed in 1874 for the conveyance of grain to the famine districts.
† The old Ganges bank station, which is one mile from Bajitpur, has been shifted, on 23rd December 1878, to a point seven miles further up the river and immediately opposite Barh-Ghat. This line is a tramway only, and is proposed to be taken up and relaid every year.
‡ Half a mile of the Main Line at Goalundo, which was abandoned in September 1875 on account of erosion in the river bank, was relaid in 1876; thus on 31st December 1875 the open length was less than that on the same date in 1874.
§ This line was called the "Conjeveram Tramway" until 1863.
‖ In 1863, a length of 13 miles from Mooltan to the river bank at Sher Shah was opened, but owing to the river silting up its bed at this Ghat, the Sher Shah section was abandoned in favour of a branch to Rajghat.
¶ The difference in lengths is owing to the Main and Nagpur Lines from Bhusawal being now treated as two single lines instead of one double to point of divergence.
** Includes the length (1½ miles) from Jagati Junction to Koshtee engine shed.
†† This has been found, after re-measurement, to be the correct mileage.

19. The railway works which last year suffered most from floods were on those portions of the Punjab and Delhi line which run through the Beas and East Beyne valleys, between 62 and 88 miles east of Lahore. Excessive rain in August swelled the volume of these rivers to an extent which caused a very large overflow, and considerable damage was done to the bridges, culverts, and embankments. Eleven inches of rain fell in 14 hours. The West Beyne valley is an old bed of the Beas river, some of the waters of which it has again received. They rose by several inches higher than the highest recorded flood. Parts of Jullunder cantonments were for some time five feet under water. All the large bridges on the line escaped injury, but several spans with girders varying from 30 feet to 110 feet were carried away and lost. The interruption in the traffic occurred at an unfortunate period. It was just as troops and artillery were expected to pass on their way to the frontier. Great efforts were made to reopen communication, and by the 27th September this was effected by means of a diversion 5½ miles in length. Two days after the troops were crossing over the restored line. The thanks of the Government of India were promptly given to Mr. C. Stone, the Chief Engineer and Acting Agent, for the great personal exertions made by himself and the members of his staff on the occasion. Extensive, and I fear expensive, works will be required to prevent the recurrence of a similar disaster. Damage from floods: in the Punjab.

20. About the same time the Oudh and Rohilkund line, near Aligarh, was threatened. The rains were very heavy, and a breach was made which interrupted traffic for two or three days, but through the vigilance of Mr. Dennison, District Engineer, no accident happened. On the Bombay, Baroda and Central India line, a gap of 250 feet was made in the Nerbudda bridge, four spans of 62½ feet having been broken away. The usual energy was shewn in making the repairs, so that traffic was interrupted but for a short time. in Oudh and Rohilkund. on the Bombay, Baroda and Central India line.

21. The experience of the Indus Valley Railway, both during construction and since its opening, and a study of the nature of the river, would seem to shew that there will be as much difficulty to cope with on this line as on any other in India where large rivers come in contact with the works. In other cases the effects of the floods were unexpected, and sufficient means had not been taken to resist or regulate their force; but with regard to the Indus the shifting nature of the channel, the spills which it throws off at each flood, the imperfect resistance which a system of embankments along its banks offers to its overflow, are well known. It might, therefore, appear to be a question only of cost and of engineering skill as to what measures should be taken to protect the railway. But, unfortunately, it is not possible to foresee where the floods will direct their force, and attempts might be made to resist them in the wrong places. Many of the embankments which exist are in the hands of private proprietors, but some belong to Government. To avoid what might be waste of money, Government consider it wiser to give up any attempt to provide against every contingency, and will content themselves with making repairs as they are required, and incur no expense until it is proved to be unavoidable. During last season several miles of line were swept away, and the railway embankment was cut in various places to save the crops. The necessary repairs and additional works will cost nearly 25 lacs. The last estimates of the capital outlay amounted to Rs. 6,63,35,111 (exclusive of a sum of Rs. 1,02,96,026 chargeable to the disused metre line). The present estimates are Rs. 7,18,00,000. But the Secretary of State is warned by the Government of India that neither this estimate nor any other which it is at the present period possible to frame "will give an accurate conception of the whole cost to which the State is committed in respect of this undertaking." in the Indus Valley.

22. The rapid and steady movement of troops and supplies in time of war and internal commotion is an important element of strength, whether in the administration of internal or external affairs, and we have seen the value of a railway system during the recent advance of the army into Afghanistan. The greater the distance, the more important are railways as military communications. It has been a subject of regret with the authorities, during the late campaign, that the line did not more nearly approach the north-west frontier than Jhelum, which is 173 miles from Peshawar. As an example of what was done, I may mention that arrangements were made by the Sind, Punjab and Delhi Railway Company for the daily conveyance in 24 hours from Delhi to Lahore (a distance of 348 miles) of two batteries of Artillery, two regiments of European Infantry, 1½ of Native Infantry, and one regiment of Native Cavalry, being at the rate of about 4,000 men of all arms in these proportions. Between Lahore and Mooltan, the number of trains admitted of the daily movement of about 3,000 troops in similar proportions. The average speed was 20 miles an hour, with 35 vehicles per train. By these means, 146,000 troops and followers (four-fifths probably consisting of the latter), 15,197 horses, ponies, and mules, 6,227 bullocks, 218 camels, and 138 guns and 33,780 tons Conveyance of troops by railway to Afghan Frontier.

of Commissariat, Ordnance, and Military stores were transported in 184 special trains during the operations.

Railway Conference.

23. The Railway Conference, which was postponed from January 1877, was held in February last, but the subjects brought under consideration, while of considerable importance in connection with working arrangements, were limited to matters of comparative detail. The delegates consisted of Colonel J. S. Trevor, R. E., who was President, Mr. G. L. Molesworth, Vice President, the Agents of the East Indian, the Eastern Bengal, the Oudh and Rohilkund, the Bombay, Baroda and Central India, and the Madras Railways, the Traffic Manager of the Great Indian Peninsula, and the Traffic Manager and Auditor of the Sind, Punjab and Delhi Railway Company. General rules were agreed to for the interchange of rolling stock between all the broad gauge railways, and these rules have been confirmed by the Boards in this country. They come into operation on the 1st September next, and will be found in the Appendix to this Report.

New Act to enable Guaranteed Railway Companies to work other lines.

24. A Bill has been introduced into Parliament "to enable Guaranteed Railway "Companies in India and the Secretary of State for India in Council to enter "into Agreements with respect to the working of Railways and with respect to Tele- "graphs, and to confer upon those Companies additional powers with respect to their "Undertakings." This measure was rendered necessary in consequence of the Companies being unable to work and manage other lines than their own, or to surrender and sell any portion of their undertakings or the telegraphs connected therewith. They will now have power to do so, with the sanction of the Secretary of State, and they will also be granted authority to work any ferry, to construct any bridge used in connection with the railways, and, supposing private enterprise is not ready to do so, to supply the means of communication required for the convenience of the traffic on any railway.

Purchase of the East Indian Railway, and new contract with that Company for working the line.

25. Having regard to the approach of the expiration of the first term of the contract between the East India Company and the East Indian Railway Company, under which the Government were enabled to purchase the main line, extending from Calcutta to Delhi, on the expiration of 25 years from the 15th February 1854, negotiations were formally opened with Mr. Crawford, the Chairman of the Company, in July 1878, for the purpose of arranging the terms of the purchase of the entire undertaking, including the Jabalpur Branch (which could not be compulsorily taken over till 1883), and of entering into a new agreement with the Company for working the whole concern under the control of Government.

26. The negotiations resulted in the acceptance by the Company of the terms offered by the Government in a letter from the India Office, dated the 1st November 1878, and a new contract will be entered into between the Secretary of State and the Company for the future management of the Railway.

27. The terms of the purchase were based mainly on the provisions of the old contract. The Capital stock amounted to 26,200,000*l.*, and the Company were entitled to be paid either in cash at the average price of the stock during the three previous years ended the 14th February 1879, or by an annuity for 73 years equivalent thereto. The average price of the stock was taken at 125*l.*, so that the total amount payable in cash was 32,750,000*l.* The Government, however, preferred to make the payment in the shape of an annuity, and one of 5*l.* 12*s.* 6*d.* was offered in lieu of the 125*l.* At the same time, the Company were allowed the option of deferring a portion, not exceeding one fifth of the annuity, and of leaving the Capital sum representing the same, viz., 6,550,000*l.*, in the hands of Government, to be regarded as the Capital of the Company, on which they should receive, in the first place, four per cent. interest, and, secondly, one fifth of the profits after the working expenses and the following payments have been made out of the gross receipts each half year, viz., (1) the charge in respect of so much of the annuity of 1,473,750*l.* which is not deferred, and which (if the fifth is deferred) will amount to 1,179,000*l.*, (2) interest at the rate of four per cent. on the Capital sum represented by the deferred annuity, (3) interest due on the debentures and debenture stock raised for the purposes of the line, (4) interest on the value of the stores in hand at the end of each half year, and (5) contributions to the provident fund. This arrangement is to be made for fifty years, subject to determination at the end of the twentieth and any subsequent fifth year. Whenever this contract terminates, those who hold the one fifth will receive up to the 14th February 1953 the annuity of 5*l.* 12*s.* 6*d.* for every 125*l.* to which they were entitled, or for every 100*l.* of the 5,240,000*l.* original unconverted stock. The undertaking now represents a sum of 32,750,000*l.*, the amount of the purchase money, and the whole of this will have been paid off at the above-mentioned date by means of the annuity.

28. In order principally to accommodate trustees who had invested in East Indian Railway guaranteed stock to the extent of several millions, but who could not, as

trustees, accept the annuity, the Government made a subsequent offer of 125*l.* of four per cent. Government of India stock, in lieu of the annuity of 5*l.* 12*s.* 6*d.* This has already been taken advantage of by the holders of above three and a half millions of the Company's stock, who will receive four per cent. stock to the extent of upwards of four and a half millions, the whole of which will be redeemed by a sinking fund, created out of the difference between the interest (5*l.*) on such stock, and the annuity (5*l.* 12*s.* 6*d.*) which is payable out of the earnings of the railway. The Company also, in the Act which is now before Parliament, with the same object, seek for powers to set aside, for those annuitants who may desire it, an annual sum not exceeding 7*s.* 6*d.* for the purpose of redeeming the whole 125*l.* by the end of the 73 years.

29. Under the arrangement which has thus been made, the Government will secure, for the future working of the railway, an agency which has administered its affairs satisfactorily in the past. They have avoided engaging the already fully occupied executive of the State in a duty which, partaking as it does of a commercial character, may properly be transferred to other qualified hands; they have applied to the management, by giving up a fifth of the results which it obtained, the active principle of personal interest, which the Government in the budget resolutions truly describe as "likely to yield more satisfactory results than the best conceivable official "management without that stimulus," and at the same time they have reserved for the State a larger share of the profits than it had obtained under the former contract. They have also obtained the advantage of securing the redemption in the course of 73 years of upwards of 32,000,000*l.* of debt.

30. Adopting, as an example, the estimate of the receipts of the Railway made in the budget for the present year, the difference between the operation of the existing contract and that which will commence on the 1st January next will be seen in the subjoined statement, which accompanies a financial Despatch to the Government of India.

EAST INDIAN RAILWAY COMPANY.

STATEMENT showing the Gain to the Government of India under the New Agreement, calculated on the Estimated Net Traffic Earnings, for 1879–80.

UNDER EXISTING CONTRACT.	Rs.	Rs.	Rs.
Net Traffic Earnings			2,49,50,000
		2,49,50,000	
Guaranteed Interest, 1,498,000*l.*, at 1*s.* 10*d.*	1,63,41,818		
Interest on overdrawn Capital (estimated)*	85,000		
Contribution to Provident Fund (1 per cent. on Net Earnings)	2,49,500		
		1,66,76,318	
* In 1878. Rs. 84,791.			
Surplus Profits		82,73,682	
Moiety payable to Company		41,36,841	
Provident Fund		2,49,500	
Portion of Interest payable in India (estimated)*		67,000	
* In 1878, Rs. 67,565			
Total payments made in India		44,53,341	
		2,04,96,659	
Payment made in England: Guaranteed Interest 1,498,000			
Less portion payable in India (estimated) 6,200		1,496,800 = 1,88,43,789 at 1*s.* 1*d.*	
Balance, or Share of Government		16,52,870	

UNDER NEW AGREEMENT.	Rs.	Rs.	Rs.
			2,49,50,000
		2,49,50,000	
Interest and Annuity 1,629,000*l.*,† at 1*s.* 7*d.*	3,05,76,842		
Contribution to Provident Fund	2,49,500		
Interest on value of stores	4,00,000		
		2,12,26,342	
† Interest on Debentures and Debenture Stock	£ 188,000		
Charge in respect of the Annuity	1,179,000		
Interest on the Company's Capital	262,000		
	£1,629,000		
Surplus Profits		3,723,658	
One-fifth payable to Company		7,44,732	
Provident Fund		2,49,500	
Total payments made in India		9,94,2	
		2,39,55,	
Payments made in England 1,629,000*l.*, at 1*s.* 7*d.* per rupee		2,05,76,	
Balance, or share of Government		33,78,	
		16,52,	
Gain to Government under the New Agreement		‡17,26,	

‡ Or at 1*s.* 7*d.* the Rupee, 136,646*l.*

31. The relations of Government and the Company will be regulated by the new contract, the principal provisions being that Government have full powers of control over the proceedings of the Company, who are bound to maintain and work the line to the satisfaction of Government, and to give all proper and reasonable accommodation to the people of the country both for the conveyance of their persons and their goods. Government may require the Company to give running powers for the locomotives and rolling stock of the State and Guaranteed lines. They may also require the Com-

pany to construct any auxiliary or branch railway in connection with the undertaking upon such terms and conditions as may in each case be agreed upon. In the event of any dispute arising between Government and the Company on any matter relating to the carrying out of the contract, the matter in difference is to be referred to arbitration.

32. The following tables relate to the shipping operations of the year 1878:—

SHIPPING OPERATIONS, exclusive of Fuel, during 1878, on account of Guaranteed and State Railways.

Railway.	Route.	*Number of Ships employed in 1878.	Number of Tons of Goods shipped in 1878.	Value of Goods shipped in 1878.	Amount paid for Freight and Insurance in 1878.	Average Rate of Freight and Insurance per Ton.
			Tons.	£	£	£ s. d.
East Indian	*vid* Suez Canal.	57	7,581	115,270	12,933	1 14 1
	vid Cape of Good Hope	37	30,114	281,379	41,400	1 7 6
Great Indian Peninsula	Canal	75	46,771	358,101	89,991	1 18 6
	Cape	—	—	—	—	—
Madras	Canal	48	15,849	183,711	19,590	1 4 8
	Cape	6	1,747	9,612	2,594	1 9 8
Bombay, Baroda and Central India	Canal	38	9,945	104,719	7,370	2 6 5
	Cape	4	1,696	14,107	—	—
Sind, Punjab and Delhi	Canal	16	5,900	65,878	10,062	1 14 1
	Cape	—	—	—	—	—
South Indian	Canal	17	236	8,544	556	2 7 1
	Cape	8	6,057	67,652	9,378	1 10 11
Eastern Bengal	Canal	24	1,890	27,777	3,708	1 19 2
	Cape	20	4,995	31,487	5,216	1 0 11
Oudh and Rohilkund	Canal	13	527	8,972	882	1 13 6
	Cape	1	17	572	23	1 7 1
State Railways	Canal	175	53,542	560,122	95,443	†1 15 8
	Cape	43	28,176	173,819	25,731	†0 18 3
Totals and averages		582	215,043	2,011,722	324,877	Canal 1 17 0 Cape 1 5 8

* It is probable that these numbers include ships which have been employed by different Companies on the same voyage.
† This does not include insurance.

33. In comparing one average rate of freight with another, it must be borne in mind that the charges for freight to the various ports differ materially, that the season at which goods are sent makes a difference, and that the class of goods which are despatched makes the greatest difference of all in the amount paid per ton. If one Company has been sending out a large number of locomotives and carriages, and if another has only been sending out iron rails, the latter will have paid less in proportion to the weight sent. The East Indian Railway Company, for instance, last year sent out, amongst other things, 50 locomotive engines and 33 tenders, weighing 2,416 tons, and the freight per ton was 3*l.* 17*s.* 6*d.* They also shipped rails and creosoted sleepers, the mean rates for which were 7*s.* 6*d.* and 15*s.* respectively. The Great Indian Peninsula Company also shipped during the year 29 engines and tenders, weighing 1,415 tons, at an average of about 5*l.* per ton for freight and insurance.

AMOUNT and COST of COAL and other FUEL sent out from this Country in 1878.

Railway.	Number of Tons supplied from England.			Total original Cost.			Sum paid for Freight and Insurance.	Average Cost of each Ton when bought in England.			Average Cost of each Ton delivered in India.		
	Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.		Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.
				£	£	£	£	£ s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.
East Indian	—	—	All the fuel for this line is obtained in India.							—	—	—	—
Great Indian Peninsula	83,322	—	—	36,106	—	—	103,941	0 8 8	—	—	1 13 7	—	—
Madras	8,475	—	6,874	3,832	—	3,523	16,817	0 9 0½	—	10 3†	1 10 11	—	†1 12 2½
Bombay, Baroda and Central India	22,264	79	—	34,410	187	—	—*	1 10 11	2 4 7	—	1 10 11	—	2 4 7
Sind, Punjab and Delhi	5,574	—	—	10,176	—	—	—*	1 16 6	—	—	—	—	—
South Indian	5,887	1,145	—	3,003	792	—	7,849	0 10 2	0 13 10	—	1 12 11	2 6 6	—
Eastern Bengal	377	102	—	347	154	—	416	0 18 4	1 10 2	—	1 16 5	2 5 1	—
Oudh & Rohilkund	—	—	All the fuel for this line is obtained in India.							—	—	—	—
State Railways	—	—	None supplied from this country during 1878.							—	—	—	—
Totals and averages	125,899	1,326	6,874	87,874	1,133	3,523	129,023	0 18 11	1 9 6	10 3	1 12 10	2 5 9	1 18 4

* Included in original cost.
† Excluding inspection (where incurred) and landing charges at Madras, which would come to about 2*s.*

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.*	Number of Ships lost.	Number of Tons of Goods shipped.	Amount paid in England for Goods shipped.
				£
Up to end of 1860	2,605	39	2,094,686	10,431,976
In 1861	407	—	181,621	1,669,443
„ 1862	280	1	138,013	1,487,582
„ 1863	279	2	166,840	1,285,464
„ 1864	233	—	102,318	1,018,164
„ 1865	442	2	199,157	1,729,543
„ 1866	581	7	312,227	2,527,757
„ 1867	512	5	333,329	3,052,652
„ 1868	364	3	188,858	1,849,554
„ 1869	455	1	211,750	1,432,784
„ 1870	461	1	263,449	1,688,209
„ 1871	307	6	168,049	707,765
„ 1872	318	1	66,534	655,822
„ 1873	404	2	201,590	1,561,602
„ 1874	426	5	265,114	2,042,136
„ 1875	421	—	288,186	1,518,991
„ 1876	587	—	296,801	680,929
„ 1877	539†	5	458,482‡	1,918,539
„ 1878	582†	2	349,142‡	2,104,252
Totals	10,203	82	6,286,146	39,363,164

* These numbers probably include ships which have been employed by two or more Companies at the same time.
† Exclusive of ships conveying coal and fuel. ‡ Includes coal and fuel tonnage.

34. The following table relates to the number of persons who hold investments in Indian railways. There is no material alteration since last year:—

Railway.	Number of Shareholders on 31st December 1878.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1878.
	Registered in England.			In India.					
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.	Bonds.	Stock.	
East Indian	7,374	9,240	16,614	71	129	200	184	881	17,879
Great Indian Peninsula	5,763	7,903	13,666	52	102	154	43	1,580	15,443
Madras	3,161	4,412	7,573	—	—	—	392	—	7,965
Bombay, Baroda and Central India	2,461	3,952	6,413	7	38	45	32	—	6,490
Sind, Punjab and Delhi	3,496	5,447	8,943	42	9	51	—	—	8,994
South Indian	976	1,475	2,451	No register in India.			47	150	2,648
Eastern Bengal	696	1,019	1,715	13	16	29	73	219	2,036
Oudh and Rohilkund	1,126	1,512	2,638	35	23	58	—*	170	2,866
Totals	25,053	34,960	60,013	220	317	537	771	3,000	64,321

* Not known. Bonds to bearer.

35. The following shews the additions made to the locomotive and other rolling stock in use during the year 1878:—

Railway.	Locomotives.				Vehicles.							
					Passenger Carriages.				Goods Trucks and Wagons.			
	Previous Number.	Alterations during the Year.		Total Number on 31st December 1878.	Previous Number.	Alterations during the Year.		Total.	Previous Number.	Alterations during the Year.		Total.
		Added.	Withdrawn.			Added.	Withdrawn.			Added.	Withdrawn.	
East Indian	597	2	6*	593	983	—	—	983	6,701	438	19	7,120
Great Indian Peninsula	355	69	2	422	1,314	—	—	1,314	6,679	573	—	7,252
Madras	150	8	—	158	391	—	—	391	3,223	—	—	3,223
Bombay, Baroda and Central India	77	5	2	80	285	2	2	285	2,644	46	19	2,671
Sind, Punjab and Delhi	151	—	—	151	517	13	3	527	2,969	63	4	3,028
South Indian	101†	19	4	116	386	24	36	354	1,543	54	40	1,557
Eastern Bengal	43	—	—	43	180	9	2	187	691	101	1	791
Oudh and Rohilkund	88	4	2‡	90	331	1	—	332	2,244	15	1	2,258
State Railways	162	107	—	269	518	471	—	989	2,469	1,134	—	3,603
Totals	1,634	214	16	1,832	4,394	520	43	5,371	29,163	2,424	84	31,503

Railway.	Total Number of Vehicles on 31st December 1878.
East Indian	8,102
Great Indian Peninsula	8,566
Madras	3,614
Bombay, Baroda and Central India	2,966
Sind, Punjab and Delhi	3,555
South Indian	1,911
Eastern Bengal	978
Oudh and Rohilkund	2,590
State Railways	4,592
Totals	36,874

* Condemned. † Four on hire from East Indian Railway Company. ‡ Inspecting engines: not used for working traffic.

NUMERICAL RETURN of all Races employed on open Lines of Railways and on the Steam Flotillas on the 30th September 1878.

Railways.	General Administration, including Agency, Audit, Account, Paymasters, Stores, Medical, Barrack, Printing, Stationery, and Police Establishment.				Traffic and Telegraph Departments.				Engineers' Department.				Locomotive and Carriage and Wagon Departments, including Steamboat Establishment.				Total.				Number of Miles Open.	Number of Stations.	Remarks.
	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.			
East Indian - - -	70	42	3,277	3,389	289	216	9,524	10,029	90	16	13,975	14,081	495	212	11,331	12,038	944	486	38,107	39,537	1,503¼	155	(a) Includes coolies employed by labour contractors.
Eastern Bengal (including Dámuldia Branch).	14	—	776	790	64	38	2,438(a)	2,540	(b) 16	3	(c)1,598	1,617	58	28	1,654	1,740	152	69	6,466	6,687	171¼	36	(b) One of these is a contractor.
Steamboat Establishment on ditto.	—	—	—	—	—	—	—	—	—	—	—	—	23	—	458	481	23	—	458	481	—	—	(c) Includes 280 extra men employed on miscellaneous works and 21 contractors.
Oudh and Rohilkund - -	31	24	620	675	50	20	1,391	1,461	21	9	2,971	3,001	80	31	2,298	2,409	182	84	7,280	7,546	546¾	81	(d) Includes 5 West Indians and Africans.
Punjab and Delhi - -	53	10	659	722	99	45	2,268	2,412	47	4	4,288	4,339	136	39	2,678	2,853	335	98	9,893	10,326	(n)566¾	67	(e) Excludes Mortakka.
Sind - - - -	2	9	152	163	7	20	176	212	3	2	533	538	13	39	726	778	25	79	1,587	1,691	100¾	9	(f) Not including Stores and Medical Departments which are under the orders of the Engineer-in-Chief, nor the Civil Surgeons at Lahore and Jhelum who are in medical charge.
Indus Steam Flotilla - -	—	6	61	67	26	21	793	840	—	—	—	—	24	26	391	441	50	53	1,245	1,348	—	—	
Rajputana and Sindia (State) -	21	15	398	434	26	32	802	860	20	2	2,105	2,127	(d)100	53	1,121	1,274	167	102	4,426	4,695	462½	56	
Holkar and Neemuch („) -	14	1	153	168	17	24	228	269	7	5	1,013	1,025	26	5	397	428	64	35	1,791	1,890	171	(e) 21	
Punjab Northern („) -	5	—	50	(f) 55	10	16	291	317	4	—	391	395	20	3	439	462	39	19	1,171	1,229	103	13	
Rangoon and Irrawaddy Valley. („) -	11	21	81	113	7	49	186	242	13	11	1,556	1,580	16	21	289	326	47	102	2,112	2,261	163	18	(g) Includes 195 persons employed regularly on the Wardha Valley State Railway by Government, but there are also occasionally engaged on the works a European Engineer, 4 Lorrymen, 1 Engine Driver, and 3 Firemen, who are not included with the permanent establishment.
Madras - - - -	14	47	522	583	51	486	2,137	2,624	25	102	5,184	5,311	202	584	4,231	5,017	292	1,169	12,074	13,535	857	96	
South Indian - - -	9	28	227	264	6	59	1,313	1,378	21	51	3,315	3,387	74	177	1,673	1,924	110	315	6,528	6,953	607	86	
Great Indian Peninsula (h) -	35	31	1,145	1,211	319	253	4,640	5,212	66	12	13,110	13,197 (g	443	199	8,166	8,808	863	495	27,070	28,428	p1,994	175	(h) Does not include the Engineering Establishment on the Nizam's and Dhond and Manmad State Railways.
Bombay, Baroda and Central India.	15	28	680	723	15	45	1,552	1,612	19	2	2,375	2,396	61	157	1,185	1,403	110	232	5,792	6,134	(p)464	80	
Calcutta and South-Eastern (State).	(k) 1	—	(k) 23	24	—	—	56	56	—	1	107	108	(k) 1	1	56	58	2	2	242	246	28	9	(k) Manager, Auditor, Locomotive Foreman, and 16 men out of the establishment are jointly employed on both lines.
Nalhati (State) -	—	—	2	2	—	—	31	31	—	—	70	70	—	—	65	65	—	—	168	168	27¼	7	
Tirhut („) -	5	2	67	74	6	10	228	244	3	1	334	338	3	4	244	251	17	17	873	907	(o) 78	14	(l) Including Ferry.
Steamboat Establishment on ditto.	—	—	—	—	—	—	—	—	—	—	—	—	—	1	34	35	—	1	34	35	—	—	(m) Inclusive of the distance between Ghaziabad and Delhi, 13 miles.
Northern Bengal (State) -	5	1	106	112	11	22	501	534	21	12	6,805	6,838	20	23	569	618	63	58	7,981	8,102	219	(l) 30	(o) Includes Barh Branch.
Railways under the control of the Government of India.	221	428	6,227	6,576	595	490	18,097	19,182	221	52	28,430	28,703	901	457	21,782	23,230	2,028	1,127	74,536	77,691	3,797½	456	(p) Includes the mileage of the State Lines worked by this Company.
Ditto ditto Madras -	23	75	749	847	57	495	3,450	4,002	46	153	8,499	8,698	276	761	5,904	6,941	402	1,484	18,602	20,488	1,464	182	
Ditto ditto Bombay -	50	59	1,825	1,934	334	298	6,192	6,824	85	14	15,494	15,593	504	356	9,351	10,211	973	727	32,862	34,562	2,058	255	
Ditto ditto Bengal -	11	3	193	212	17	32	816	865	24	14	7,316	7,354	30	29	968	1,027	82	78	9,293	9,453	352½	60	
Total Indian Railways -	305	565	8,969	9,839	1,003	1,315	28,555	30,873	376	233	59,739	60,348	1,801	1,603	38,005	41,409	3,485	3,416	135,298	142,199	7,671½	953	

PERSONS EMPLOYED.

Number employed.

36. Detailed information regarding the numbers and classes of persons employed on the railways on the 30th September 1878 will be found in the table on the preceding page. Out of a total of 142,199 employed on the 7,671½ miles of open line, 3,485 were Europeans, 3,416 were East Indians, and 135,298 were Natives. In the year 1877 the number employed was 132,040, the proportions per cent of Natives being 94·74, of Europeans 2·75, and East Indians 2·51. Last year the proportions were Natives 95·15, East Indians 2·40, and Europeans 2·45. The average number of persons employed on all the lines is under 20 per mile. On the East Indian there are 26, on the Great Indian Peninsula 22, on the Eastern Bengal 38, on the Madras 15, on the Oudh and Rohilkund 14, and on the Rajputana and the South Indian 10, per mile. One European is on the average employed in every 2·2 miles, one East Indian in every 2·24 miles, and to each mile there are 17 Natives. The Volunteer Corps connected with the railways have maintained their efficiency, and received the commendation of the Inspecting Generals.

Proportion of European and Natives.

Volunteers.

Casualties.

37. The casualties among the Europeans during the year, ending the 30th September 1878, were 24·49 deaths per 1,000, and among the East Indians 16·73 deaths per 1,000. This is higher than the death rate amongst European Non-commissioned Officers and men, which for the last return before me (viz., 1876) was 16·10 per 1,000. As might be expected, the greatest mortality is in the Locomotive Department, the duties of which involve more exposure and probably offer more temptations to drink. More than half the deaths occurred in this Department, viz., 51·9 per cent. In the Traffic and Telegraph Departments which include guards and telegraph inspectors, the per-centage was 31·86. Amongst the engineers it was 10·62, and in the general administration, which embraces the various offices and stores, 5·62.

Education of the children of European Railway servants.

38. The Government of India have given their serious consideration to the subject of schools for the children of Europeans employed on the railways. They recognise the importance of establishing a proper system of education for them in a suitable climate, and express the hope that the local authorities will give their early and earnest attention to the matter. With regard to the aid to be expected from the State, "what the Government wish is, that everything should be done to promote the "progress of railway schools that the State can reasonably do, with due regard to the "requirements of the other and more numerous sections of the Indian community, "and with proper attention to the extent and capabilities of the provincial assignments "in each Province."* More than this cannot be expected, but the question then arises, how, under these conditions, shall the object be best accomplished?

39. The Venerable Archdeacon Baly, of Calcutta, who has paid much attention to the question, is of opinion that economy and efficiency would be better secured by maintaining a few central schools than by having a number of smaller schools, and he thinks that those already established at Simla, Masuri, Naini Tal, and Darjeeling will for several years to come meet the wants of Bengal and Upper India. The health of the children in the existing schools, as well as the instruction which they receive, is shewn to be satisfactory, many of them having eventually qualified for Rurki College, and obtained employment in the public service through the entrance examinations. The religious difficulty is got over by allowing the pupils to attend the public services of their own ministers if their parents desire it. The Archdeacon concludes his observations on the subject by expressing his "conviction that the Government "of India will find both the Diocesan Board of Education in Calcutta and the local "managing Committees of the various schools most willing to co-operate with Govern-"ment and the Railway Companies in providing suitable schools for all classes of "Europeans in India, to meet their wishes in regard to the quality of education and "the subjects to be taught, to welcome the strictest inspection as a positive advantage "to their schools, to furnish every information to be required, and to stand in the "same relation to the Local Governments and Administrations in India as that in "which the managers of voluntary schools aided by the State at home stand to the "Committee of Privy Council for Education."

40. In Bombay, Sir Richard Temple has proposed that a school shall be established at Panchgani, a small hill station, situated on the Passernee Ghât, about 10 miles from

* Proceedings of the Government of India in the Home Department, August 1878.

Mehableshwar. The climate is good, the temperature being seldom above 73° Fahrenheit, the rainfall is moderate, and the cold season very fine. On the Oudh and Rohilkund Railway, it is proposed to take advantage of an existing Diocesan school at Naini Tal, and to send about 20 children there, the Company contributing Rs. 200 a month towards expenses. Difficulties must, of course, be expected in starting any comprehensive scheme, but they are not such as may not be surmounted by acting perseveringly in the right direction. There is among some parents a natural indisposition to part with their children, but their good sense will probably overcome this objection when they are persuaded that their children will be well cared for as well as rightly taught. In Southern India, the Rev. James Sharpe, who is the Chaplain on the Madras Railway, reports that, after personal communication with the parents, he found some of them unwilling to send their children to the Hills, because of the distance from their homes, and others, especially Eurasians, because they feared the effects of the cold. Certain suitable places on that line were accordingly selected to meet present requirements, any final measures with regard to Hill schools being suspended until the next Railway Conference, when the subject will be fully discussed.

41. Evidence is not wanting of an earnest desire on the part of all those who have a voice in the matter, whether in this country or in India, to provide for the 5,000 children who are being bred in India the means of an English elementary education, and of preserving at the same time their constitutional health and strength. In any plan that may be devised, the necessity for observing the utmost economy cannot be too strongly insisted on. Up to a certain point the Archdeacon's views in favour of centralization would, no doubt, be on the side of economy; but there is probably a limit to the number of children who can be properly and efficiently superintended in one institution. It is true that this limit is not likely to be reached soon, and for the present at least, existing agencies and establishments may therefore be advantageously used and extended so as to meet requirements as they arise. I may mention that Mr. Crawford, the Chairman of the East Indian Railway Company, who takes a lively interest in the matter, has in preparation a plan for organising a proper system of education, on the principles above mentioned, for the children connected with that line, by means of money which is at the separate disposal of the Company and which has accumulated from various sources.

42. The following gives the number of European and Eurasian children respectively belonging to the servants of the Indian Guaranteed Railway Companies, so far as I have been able to obtain them :—

Railway Company.	Europeans.	Eurasians.	Total.
East Indian	1,028	764	1,792
Great Indian Peninsula	642	357	999
Madras	167	746	913
Bombay, Baroda and Central India	—	—	—
Sind, Punjab and Delhi	—	—	472
Eastern Bengal	79	43	122
Oudh and Rohilkund	—	—	157
South Indian	32	201	233
Total			4,688

CAPITAL.

43. The outlay of capital on the guaranteed lines during the year ended the 31st March 1879, was 1,294,816*l.*, and a sum of 3,629,476*l.* was expended on the State lines during the year ended the 31st October 1878, making a total of 4,924,292*l.*

44. The total amount of capital which, on the 31st March 1879, had been expended on guaranteed lines was 96,725,679*l.*, and on State lines up to the 31st October 1878, 21,291,076*l.* Particulars will be found in the following tables.

45. The chief expenditure on the State lines was connected with the Indus Valley, the Western Rajputana, the Dhond and Manmad, and the Northern Bengal Railways. The expenditure on the guaranteed lines was incurred principally in supplying new locomotives, rails, and sleepers. The South Indian is almost the only Company now engaged in works of construction.

46. The stores in the hands of the various Companies on the 31st December 1878, cost about 3,700,000*l.* Much of this Stock will eventually be paid for out of Revenue, as the stores are used for renewals and repairs.

47. The following gives the approximate cost per mile of each line up to the end of the year 1878 :— Cost per mile.

Railway.	Total Mileage.	Double Line.	Cost per Mile.
			£
East Indian - - - -	1,503¼	410¼	20,000
Great Indian Peninsula - - -	1,280½	325	18,360
Madras - - - - -	857	42½	12,300
Bombay, Baroda and Central India -	421½	23¼	18,720
Sind, Punjab and Delhi - -	663½	4½	15,890
Eastern Bengal - - -	159	—	20,000
Oudh and Rohilkund - - -	546¾	—	10,470
South Indian (narrow gauge) - -	617	—	6,780
Rajputana „ - - -	400	—	7,068
Northern Bengal „ - -	232	—	7,600

48. The amount raised by the Companies during the year was 860,855*l.*, of which 89,095*l.* consisted of calls upon share capital, and the rest of 4 per cent. debentures.

49. The total amount of capital which has been raised by the various guaranteed Railway Companies now amounts to 97,173,822*l.*, of which,—

£				
82,820,354	consists of	share capital	raised at	5 per cent.
1,231,265	„	„	„	4¾ „
500,000	„	„	„	4½ „
1,000,000	„	debentures	„	4¼ „
5,950,750	„	„	„	4 „
1,925,000	„	debenture stock	„	4½ „
3,497,458	„	„	„	4 „
248,995*	„	capital not bearing interest.		

* The difference between this amount and that given in Statement No. 2 is thus explained :—

Premium on share capital and debentures - - -		£570,650
Discount on debenture stock :		
Stock represented as shewn above - -	£5,422,458	
Cash received (per Statement No. 2) - - -	5,129,878	
	292,580	
Discount on debentures :		
Amount of debt shewn above -	£6,950,750	
Cash received (per Statement No. 2) -	6,921,675	
	29,075	
		321,655
		£248,995

STATEMENT No. 1.

STATEMENT of EXPENDITURE in ENGLAND and INDIA on INDIAN STATE RAILWAYS, appropriated to the various Undertakings, as shewn in Statements to 31st October 1878 (the latest date to which such Statements have been received from India).

State Railway.	Expenditure appropriated.			Classification of Expenditure.											
	England.	India.	Total.	Preliminary Expenses.	Land.	Construction of Line.	Ballast and Permanent Way.	Stations and Buildings.	Electric Telegraph.	Plant.	Rolling Stock.	Establishment.	Contingencies.	Suspense Accounts.	Receipts on Capital Account.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Achnera and Muttra	—	13,587	13,587	176	103	11,517	—	—	—	637	—	1,024	—	135	5
Assam Extension	—	9,111	9,111	9,124	—	—	—	—	—	—	—	—	—	—	13
Banda	—	5,029	5,029	5,029	—	—	—	—	—	—	—	—	—	—	—
Barcilly and Pilibhit	—	1,457	1,457	1,387	—	—	—	—	—	—	—	—	—	70	—
Bellary and Hubli	—	6,513	6,513	608	—	—	—	—	—	768	—	5,190	—	—	—
Bettia Extension	—	1,835	1,835	1,835	—	—	—	—	—	—	—	—	—	—	—
Calcutta and South-Eastern (relinquished by Guaranteed Company)	268,424	422,400	690,824	6,769	108,507	104,596	155,774	57,164	3,693	8,270	122,481	86,778	18,766	* 18,031	—
Dacca and Mymen Singh	—	3,368	3,368	3,225	—	—	—	—	—	—	—	—	—	147	4
Dhond and Manmad	341,095	418,253	759,348	12,870	3,341	121,971	463,511	13,003	—	12,703	27,588	39,729	—	64,816	184
Dildarnagar and Ghazipur	—	3,362	3,362	181	103	1,500	407	163	—	33	—	970	—	—	—
Farruckabad	—	7,140	7,140	1,300	—	3,277	—	7	—	50	—	2,620	—	—204	—
Garow Hill	—	415	415	408	—	—	—	—	—	—	—	—	—	7	—
Gonda	—	907	907	825	—	—	—	—	—	—	—	—	—	82	—
Gorakhpur	—	1,320	1,320	1,100	—	—	—	—	—	—	—	—	—	220	—
Hathras and Kashganj	—	61	61	61	—	—	—	—	—	—	—	—	—	—	—
Hathras and Mathra	—	104,389	104,389	93	1,536	3,466	153,671	12,413	—	607	20,307	7,182	—	5,620	5
Holkar	340,887	948,167	1,289,054	21,699	5,532	681,975	219,387	97,408	—	28,463	136,263	132,846	—	71,878	4,067
Hubli and Karwar	2,502	53,475	55,977	55,977	—	—	—	—	—	—	—	—	—	—	—
Indus Valley	1,162,779	4,246,721	5,409,500	120,024	16,229	2,067,14	1,534,841	285,451	—	140,436	366,200	629,296	5,888	246,504	8,533
Jhunjurpore Extension	—	168	168	168	—	—	—	—	—	—	—	—	—	—	—
Jounpore	—	1,755	1,755	877	—	—	—	—	—	31	—	610	—	237	—
Kosi Extension	—	5,205	5,205	5,205	—	—	—	—	—	—	—	—	—	—	—
Lucknow	—	2,278	2,278	2,236	—	—	—	—	—	—	—	—	—	42	—
Mau-Ranipur	—	5,249	5,249	5,249	—	—	—	—	—	—	—	—	—	—	—
Moradabad	—	1,480	1,480	1,167	—	—	—	—	—	—	—	—	—	313	—
Moradabad, Deobund, and Roorkee	—	2,352	2,352	52	—	—	—	—	—	34	—	2,616	150	—	—
Nagpur and Chattisgarh	32,218	31,641	63,859	20,741	3	4,219	—	371	—	37	—	1,359	—	37,156	37
Nalhati	130,000	—	30,000	—	—	*30,000	—	—	—	—	—	—	—	—	—
Neemuch	333,394	683,182	1,016,576	63,951	302	277,227	256,509	51,526	—	20,070	66,246	113,406	—	163,167	1,428
Northern Bengal	478,005	1,287,331	1,760,336	11,199	60,430	470,120	541,765	150,410	—	69,667	143,483	210,618	—	97,480	3,236
Patna and Gya	1,069	85,456	86,525	669	568	19,326	151	4,483	—	2,004	—	6,328	—	52,998	2
Punjab, Northern, Lahore to Jhelum	538,164	1,993,155	2,531,319	49,009	24,357	1,144,708	581,177	104,674	—	105,224	110,636	373,433	—	105,946	3,204
Ditto Jhelum to Rawal Pindi	—	184,707	184,707	35,957	8,401	71,444	6,944	3,084	—	12,256	—	30,536	—	16,144	130
Ditto Rawal Pindi to Peshawar	—	25,628	25,628	25,553	—	—	—	20	—	—	—	—	—	72	17
Ditto Lala Musa to Chuck Nizam	—	525	525	5	4	98	6	—	—	103	—	113	—	191	—
Rajputana	903,596	1,923,626	2,827,222	52,165	50,207	614,703	996,986	376,585	—	43,577	362,883	186,599	—	145,892	2,464
Rangoon and Irrawaddy Valley	221,687	941,046	1,162,733	5,497	13,806	253,105	403,211	164,052	—	33,491	136,341	96,951	—	52,876	507
Rangoon and Sittang Valley	—	18,671	18,671	18,681	—	—	—	—	—	—	—	—	—	—	10
Rangpore and Dhobri	—	3,641	3,641	3,540	—	—	—	—	—	—	—	—	—	111	10
Sib Sagar, Coal	—	3,399	3,399	3,414	—	—	—	—	—	—	—	—	—	—	15
Sindia	131,890	441,908	573,798	26,636	1,364	297,353	96,055	33,960	—	1,611	9,617	33,744	—	105,196	2,307
Teesta Extension	—	11,063	11,063	42	678	4,358	4,210	75	—	247	—	1,013	—	445	—
Tirhut	164,590	341,183	505,083	920	14,632	84,232	191,863	61,737	—	20,077	54,886	55,833	—	21,811	423
Ujjain and Bhopal	—	1,093	1,093	1,093	—	—	—	—	—	—	—	—	—	—	—
Wardha Valley, Coal	55,184	420,138	475,323	9,164	437	137,749	204,971	33,817	—	15,998	303	44,299	—	9,342	678
Western Rajputana	7,374	292,844	300,218	61,181	3,010	86,860	71,610	18,889	—	4,130	339	27,874	—	26,441	116
NATIVE STATES.															
Amraoti	13,208	30,517	43,725	1,130	245	9,528	24,124	4,330	—	302	15	2,861	—	1,140	—
Khamgaon	—	48,507	48,507	37	111	11,046	27,860	4,638	—	343	31	5,072	—	1,393	24
Mysore	—	11,624	11,624	550	—	—	—	—	—	831	—	9,994	249	—	—
Nizam's	146,156	1,015,971	1,162,127	14,544	—	405,007	474,976	125,166	—	15,313	9,103	100,663	—	16,191	7,906
Total £	5,227,132	16,063,944	21,291,076	663,513	314,256	6,754,589	6,315,614	1,603,525	3,693	542,386	1,566,781	2,216,210	25,053	1,326,890	41,434

* This amount was paid to the Oudh and Rohilkund Railway Company for purchase of the Line.

Note.—The total expenditure in England on State Railways to 31st October 1878 amounted to 5,344,802. The above figures represent only that portion of such expenditure which had been appropriated in India to the several undertakings to the date of the last advices received. The expenditure in India has been converted into sterling at the rate of 2s. the rupee, as in the Finance and Revenue Accounts of the Government of India.

India Office, 12th June 1879.

THOS. W. KEITH,
Accountant General.

STATEMENT No. 2.

Shewing the AMOUNT of CAPITAL authorized to be raised for each Undertaking as now sanctioned, the Amount raised, and the Amount withdrawn, to 31st March 1879.

Railway.	Amount authorized to be raised on 31st March 1879.					Amount raised in England to 31st March 1879.						Amount raised in India to Date of last Advices.		Total Amount raised to 31st March 1879.	Total Amount withdrawn to 31st March 1879 (partly estimated).
							Debentures.		Debenture Stock.						
	Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	Total.	Share Capital.	Amount of Debentures.	Cash received.	Stock represented.	Cash received.	Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.		
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Bombay, Baroda and Central India	7,550,300	575,000	—	35,387	8,160,687	7,528,628	*575,000*	571,250	—	—	35,387	21,672	—	8,156,937	7,889,977
Eastern Bengal - - -	2,255,520	462,350	411,308	2,288	3,131,466	2,238,996	*462,350*	462,350	*411,308*	374,730	2,288	16,486	—	3,094,850	3,215,466
East Indian—Main Line - -	23,000,000	2,950,000	1,500,000	173,352	27,623,352	22,673,675	*2,950,000*	2,930,802	*1,500,000*	1,500,000	172,014	326,325	1,338	27,604,154	27,609,824
,, Jabalpur Line - -	3,200,000	—	—	43,249	3,243,249	3,192,335	—	—	—	—	43,249	7,665	—	3,243,249	3,425,899
Great Indian Peninsula - -	20,000,000	928,800	3,065,300	229,602	24,223,702	19,501,625	*614,600*	613,473	*2,701,450*	2,475,559	228,860	496,897	742	23,317,156	23,504,258
Madras - - -	10,267,850	400,000	—	9,898	10,677,748	10,259,113	*333,500*	333,500	—	—	9,898	—	—	10,602,511	10,566,364
Oudh and Rohilkund - -	4,000,000	1,615,300	384,700	8,347	6,008,347	3,575,581	*1,615,300*	1,615,300	*384,700*	354,589	8,347	424,419	—	5,978,236	5,709,823
Sind, Punjab and Delhi - -	11,418,900	—	—	4,336	11,423,236	10,988,984	—	—	—	—	4,336	86,253	—	11,079,573	10,615,645
South Indian - - -	3,212,965	400,000	425,000	64,191	4,102,156	3,211,744	*400,000*	395,000	*425,000*	425,000	64,136	1,221	55	4,097,156	4,188,423
Total - -	84,905,535	7,331,450	5,786,308	570,650	98,593,943	83,170,681	*6,950,750*	6,921,675	*5,422,458*	5,129,878	568,515	1,380,938	2,135	97,173,822	96,725,679

India Office, 3rd April 1879.

THOS. W. KEITH,
Accountant General.

Statement No. 3.

Showing the Amount received from and withdrawn by each Company during the Year ended 31st March 1879.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1878.	Sums advanced to the Companies on the 31st March 1878.	Amount received						Amount withdrawn					Total received during the Year ended 31st March 1879.	Total withdrawn during the Year ended 31st March 1879.
			In England, between 1st April 1878 and 31st March 1879.				In India, between 1st April 1877 and the Date to which Accounts have been received.		In England, between 1st April 1878 and 31st March 1879.		In India.				
			Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.	On account of Stores, Establishment Charges, &c.	For Discharge of Debentures.	Date to which Accounts have been received.	Amount.	Estimated Withdrawals between Dates specified and 31st March 1879.		
	£	£	£	£	£	£	£	£	£	£		£	£	£	£
Bombay, Baroda and Central India.	387,192	—	—	—	—	—	—	—	163,811	—	31st December 1878	*13,579**	*30,000†*	—	120,232
Eastern Bengal	—	17,044	—	—	—	—	—	—	86,121	—	,,	27,451	*10,000†*	—	103,572
East Indian, Main Line.	216,276	—	57,562	—	—	1,595	—	—	496,143	—	,,	*65,041**	*150,000†*	59,157	281,102
East Indian, Jabalpur Line.	—	161,982	2,985	—	—	—	—	—	—	—	,,	23,653	—	2,985	23,653
Great Indian Peninsula.	—	179,916	17,672	344,673	—	—	184	—	591,609	—	,,	*81,888**	*140,000†*	362,529	369,721
Madras	—	20,489	2,424	133,500	—	—	—	—	160,048	—	,,	*5,760**	*73,000†*	135,924	79,288
Oudh and Rohilkund	3,680	—	—	300,000	—	55	—	—	21,445	—	,,	23,877	*10,000†*	300,055	35,322
Sind, Punjab and Delhi.	546,105	—	—	—	—	—	—	—	146,696	—	,,	*34,319**	*30,000†*	—	82,177
South Indian	108,481	—	—	—	—	—	—		120,138	—	,,	79,611	—	—	199,749
Totals	1,261,734	379,425	80,643	778,173	—	1,650	184	—	1,786,011	—	—	*46,195**	*443,000†*	860,650	1,294,816

* Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amount withdrawn in India on Capital Account during the year.

† It is estimated that, on receipt of advices from India regarding transfers, which are several months in arrear of cash transactions, transfers of expenditure to Revenue Account, &c., will have exceeded the withdrawals to this extent.

India Office, 3rd April 1879.

Thos. W. Keith,
Accountant General.

STATEMENT of WITHDRAWALS out of CAPITAL for EXPENDITURE; shewing the Amount withdrawn in England and in India by all the Guaranteed Indian Railway Companies during each Financial Year from the commencement to 31st March 1879.

Year.	England.	India.	Total.
	£	£	£
1849–50	69,211	6,682	75,893
1850–51	61,164	38,099	99,263
1851–52	154,212	197,111	351,323
1852–53	174,920	252,640	427,560
1853–54	252,484	418,165	670,649
1854–55	960,878	769,278	1,730,156
1855–56	1,935,074	1,431,337	3,366,411
1856–57	1,752,813	1,762,287	3,515,100
1857–58	1,328,243	2,094,825	3,423,068
1858–59	1,941,033	3,551,075	5,492,108
1859–60	2,508,668	4,662,796	7,171,464
1860–61	2,388,315	5,190,400	7,578,715
1861–62	1,597,430	5,004,782	6,602,212
1862–63	1,852,393	4,010,951	5,863,344
1863–64	1,415,146	3,340,507	4,755,653
1864–65	1,396,821	2,725,419	4,122,240
1865–66	2,222,679	3,414,187	5,636,866
1866–67	3,958,357	3,339,346	7,297,703
1867–68	3,924,490	3,195,591	7,120,081
1868–69	1,702,452	2,165,475	3,867,927
1869–70	2,298,680	2,444,171	4,742,851
1870–71	1,899,054	1,877,216	3,776,270
1871–72	886,996	1,609,732	2,496,728
1872–73	822,995	*345,750**	477,245
1873–74	1,028,032	*334,979**	693,053
1874–75	1,174,893	*86,982**	1,087,911
1875–76	1,151,585	*200,779**	950,806
1876–77	1,222,846	*507,887**	715,459
1877–78	1,792,482	*469,678**	1,322,804
Total expenditure to end of 1877–78, as shewn in the Indian Finance and Revenue Accounts	43,874,346	51,556,517	95,430,863
1878–79 (partly estimated)	1,786,011	*491,195**	1,294,816
Total	£45,660,357	51,065,322	96,725,679

* Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amount withdrawn in India on Capital Account.

India Office, 3rd April 1879. THOS. W. KEITH, Accountant General.

STATE of DEBENTURE LOANS on the 31st March 1879.

Railway.	Amount.		Rate of Interest	Date at which Loan expires.
	£	£		
Bombay, Baroda and Central India	200,000		4	1st January 1882.
" " "	375,000		4	1st August 1884.
		575,000		
Eastern Bengal	52,650		4	1st November 1884.
"	409,700		4	12th July 1886.
		462,350		
East Indian	1,000,000		4½	1st January 1881.
"	1,279,850		4	12th July 1882.
"	230,150		4	1st December 1882.
"	440,000		4	19th March 1883.
		2,950,000		
Great Indian Peninsula	17,400		4	1st January 1884.
" " "	568,800		4	1st July 1885.
" " "	28,400		4	1st January 1886.
		614,600		
Madras	200,000		4	30th June 1882.
"	133,500		4	31st December 1883.
		333,500		
Oudh and Rohilkund	615,300		4	4th June 1880.
" "	500,000		4	1st August 1881.
" "	200,000		4	16th August 1884.
" "	300,000		4	1st May 1885.
		1,615,300		
South Indian	400,000		4	1st July 1884.
		400,000		
Total		6,950,750		

India Office, 3rd April 1879. THOS. W. KEITH, Accountant General.

REVENUE.

50. It will be seen by the statements on pp. 24 and 25 that the net revenue derived from the railways during the year 1878 was 5,197,815*l.*, compared with 6,248,469*l.* of the previous year. In 1876 the net revenue was 4,564,823*l.* The guaranteed lines, 6,044 miles in length, earned 5,002,028*l.* compared with 6,117,226*l.* on 6,022½ miles the year before, and the 1,867½ miles of State lines earned 195,787*l.*, while 1,060½ miles earned 131,243*l.* in 1877.

51. The gross receipts of the guaranteed lines were 9,503,721*l.*, and the expenses 4,501,693*l.* On the State lines the gross receipts were 901,032*l.*, and the expenses 705,245*l.*

52. The amount paid for guaranteed interest in respect of the year was 4,708,134*l.*, which was more than covered by the net receipts, a surplus profit of 293,894*l.* having been realised besides.

53. The following table gives the capital expended, the net revenue earned by, and the guaranteed interest paid to, the guaranteed Railway Companies in each year from 1870 :—

GUARANTEED RAILWAYS.

Year.	Capital expended to 31st March.	Net Revenue for Year to 31st December.	Guaranteed Interest for Year to 31st December.	Interest in excess of Revenue.	Revenue in excess of Interest.
	£	£	£	£	£
1870 - -	83,910,587	2,846,600	4,344,113	1,497,513	—
1871 - -	87,686,857	2,686,260	4,544,764	1,858,504	—
1872 - -	90,183,585	2,869,223	4,603,853	1,734,630	—
1873 - -	90,660,830	3,185,069	4,613,573	1,428,504	—
1874 - -	91,353,883	3,956,071	4,651,088	695,017	—
1875 - -	92,441,794	3,576,514	4,641,979	1,065,465	—
1876 - -	93,392,600	4,442,430	4,658,947	216,517	—
1877 - -	94,108,059	6,117,226	4,662,635	—	1,454,591
1878 - -	95,430,863	5,002,028	4,708,134	—	293,894

54. The following table gives the results obtained from each undertaking during the past year :—

RESULTS of WORKING the GUARANTEED RAILWAYS for the YEAR ended 31st December 1878.

Railway Company.	Net Revenue.	Guaranteed Interest.	Revenue in excess of Interest.	Interest in excess of Revenue.	Rate per cent. divided as Surplus Profits.	
					First Half.	Second Half.
	£	£	£	£	£ s. d.	£ s. d.
East Indian - - -	2,344,942	1,495,134	849,808	—	0 17 6	0 10 0
Great Indian Peninsula - -	1,328,364	1,122,946	205,418	—	0 16 0	—
Eastern Bengal - - -	239,715	147,720	91,995	—	0 10 0	1 5 0
Bombay, Baroda and Central India	337,986	400,515	—	62,529	—	—
South Indian - - - -	103,318	195,174	—	91,856	—	—
Oudh and Rohilkund - -	211,547	275,921	—	64,374	—	—
Madras - - - -	145,565	516,962	—	371,397	—	—
Sind, Punjab and Delhi - -	290,591	553,762	—	263,171	—	—
Totals - -	5,002,028	4,708,134	1,147,221	853,327	—	—

55. The subjoined table gives the earnings per cent. per annum of the principal lines during the year.

Railway.	Capital expended to 31st December 1878 (partly estimated).	Earnings per Cent. per Annum.
GUARANTEED.	£	£ s. d.
East Indian	31,200,000‡	7 10 0
Eastern Bengal	3,200,000‡	7 9 9
Great Indian Peninsula	23,550,000‡	5 13 7
Bombay, Baroda and Central India	7,840,000‡	4 6 2
South Indian	4,150,000§	2 9 9
Sind, Punjab and Delhi	10,590,000‡	2 17 2
Madras	10,580,000‡	1 7 6
Oudh and Rohilkund	5,710,000‖	3 14 2
STATE.		
Rajputana	2,800,000‖	3 17 6
Northern Bengal	1,760,000‖	1 3 0

NET EARNINGS of the INDIAN RAILWAYS during 1878.

Railway.	Amount.	Per Train Mile.	Percentage of Net Earnings to Gross Receipts.
GUARANTEED.	£	s.	
East Indian, Main Line	2,150,764‡	5·93	65·09
" Jabalpur Line	194,178‡	4·75	56·75
Great Indian Peninsula	1,328,364‡	4·13	51·12
Madras	145,565‡	1·35	23.95
Bombay, Baroda and Central India	337,986‡	5·65	53·40
Sind, Punjab and Delhi	290,591*‡	2·92	39·49
South Indian	103,318§	1·96	33·35
Eastern Bengal	239,715*‡	7·55	56·29
Oudh and Rohilkund	211,547‖	3·09	45·77
Total for Guaranteed Railways	5,002,028		
STATE.			
Rajputana	112,955‖	2·13	38·13
Northern Bengal	20,253‖	1·02	22·81
Indus Valley†	*Worked at a loss of 13,144l.*		
Holkar and Neemuch	28,652‖	1·69	31·26
Dhond and Manmád†	*Worked at a loss of 4,194l.*		
Rangoon and Irrawaddy Valley	6,715‖	0·37	6·97
Punjab Northern	2,909‖	0·23	3·16
Tirhut	11,797‖	1·84	31·92
Wardha Valley	1,043‖	0·52	8·73
Nalhati	2,040‖	0·86	20·58
Calcutta and South-Eastern	3,391‖	1·49	24·92
Native States. Nizam's	18,635‖	1·24	25·71
Sindia	*Worked at a loss of 2,832l.*		
Khamgaon	2,957‖	7·27	60·89
Amraoti	4,610‖	16·70	56·43
Deduct for losses	*— 20,170*		
Total for State Railways	195,787		
Total for all Railways	5,197,815		

* These figures include the earnings of the Flotillas worked by these Railways.
† Open for a portion of the year only.
‡ Converted from rupees into sterling, so far as Indian expenditure is concerned, at 1s. 10*d.* the rupee.
‖ Converted at 1s. 11*d.*
§ Converted at 2s.

STATEMENT showing the REVENUE from the INDIAN RAILWAYS in 1877 and 1878, as given in the Accounts passed by Government.

Railway.		Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
		Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
GUARANTEED RAILWAYS.		£	£	£	£	£	£	£		£
East Indian, Main Line	1878	881,347	2,311,789	111,016	3,304,152	353,420	799,968	1,153,388	34	2,150,764
	1877	*886,748*	*2,600,819*	*151,854*	*3,639,421*	*275,817*	*860,262*	*1,136,079*	*31*	*2,503,342*
„ Jabalpur Line	1878	95,285	214,263	32,616	342,164	36,958	111,028	147,986	43	194,178
	1877	*99,112*	*271,484*	*55,558*	*426,154*	*46,687*	*112,142*	*158,829*	*37*	*267,325*
Great Indian Peninsula	1878	565,781	1,934,679	99,647	2,600,107	260,588	1,011,155	1,271,743	48	1,328,364
	1877	*536,604*	*2,366,549*	*101,143*	*3,004,296*	*168,111*	*1,282,851*	*1,450,962*	*48*	*1,553,334*
Madras	1878	255,064	327,207	25,494	607,765	115,934	346,266	462,200	76	145,565
	1877	*247,447*	*649,673*	*22,781*	*919,901*	*110,875*	*434,303*	*545,178*	*59*	*374,723*
Bombay, Baroda and Central India	1878	217,013	398,603	17,404	633,020	70,822	224,212	295,034	46	337,986
	1877	*219,652*	*438,747*	*56,500*	*714,899*	*87,752*	*212,302*	*300,054*	*42*	*414,845*
Sind, Punjab and Delhi*	1878	282,110	426,542	109,950	818,602	131,464	396,547	528,011	64	290,591
	1877	*236,402*	*467,019*	*199,163*	*902,584*	*136,005*	*382,635*	*518,640*	*57*	*383,944*
South Indian	1878	182,667	117,539	9,636	309,842	46,183	160,341	206,524	66	103,318
	1877	*152,968*	*145,167*	*11,717*	*309,852*	*17,181*	*140,466*	*157,647*	*50*	*152,205*
Eastern Bengal*	1878	140,191	240,149	45,526	425,866	30,717	155,434	186,151	43	239,715
	1877	*117,793*	*268,712*	*55,972*	*442,477*	*30,769*	*150,961*	*181,730*	*41*	*260,747*
Oudh and Rohilkund	1878	171,803	248,671	41,729	462,203	40,714	209,942	250,656	54	211,547
	1877	*172,869*	*218,618*	*42,694*	*434,181*	*49,474*	*177,946*	*227,420*	*52*	*206,761*
Totals for Guaranteed Railways	1878	2,791,261	6,219,442	493,018	9,503,721	1,086,800	3,414,893	4,501,693	47	5,002,028
	1877	*2,669,595*	*7,426,788*	*697,382*	*10,793,765*	*922,671*	*3,753,868*	*4,676,539*	*43*	*6,117,226*

* The figures include the earnings from the flotillas worked in connection with these railways.

Railway.		Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
		Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
STATE RAILWAYS.		£	£	£	£	£	£	£		£
Rajputana	1878	82,317	204,451	9,409	296,177	36,992	146,230	183,222	61	112,955
	1877	*89,671*	*171,484*	*8,110*	*269,265*	*47,229*	*136,265*	*183,494*	*68*	*85,771*
Calcutta and South-Eastern	1878	8,097	3,681	1,050	12,828	2,856	6,581	9,437	73	3,391
	1877	*7,956*	*2,825*	*1,068*	*11,849*	*2,779*	*6,906*	*9,685*	*81*	*2,164*
Nalhati	1878	5,698	3,345	165	9,208	1,803	5,365	7,168	77	2,040
	1877	*5,562*	*3,187*	*197*	*8,946*	*4,174*	*4,814*	*8,988*	*100*	*Loss 42*
Wardha Valley	1878	2,223	9,549	186	11,958	3,355	7,560	10,915	91	1,043
	1877	*953*	*6,095*	*83*	*7,131*	*1,019*	*4,123*	*5,142*	*72*	*1,989*
Holkar and Neemuch	1878	33,328	56,571	1,764	91,663	14,251	48,760	63,011	68	28,652
	1877 Holkar	*14,281*	*24,817*	*1,353*	*39,901*	*6,274*	*24,187*	*30,411*	*76*	*9,490*
	1877 Neemuch	*6,129*	*1,726*	*72*	*7,927*	*1,782*	*4,767*	*6,549*	*82*	*1,378*
	Together	*20,360*	*26,043*	*1,425*	*47,828*	*8,056*	*28,904*	*39,960*	*77*	*10,868*
Nizam's	1878	24,036	48,333	186	72,555	8,956	44,964	53,920	74	18,635
	1877	*27,239*	*48,739*	*157*	*76,135*	*10,103*	*48,937*	*59,040*	*77*	*17,095*
Punjab Northern	1878	40,883	49,270	1,647	91,800	27,589	61,302	88,891	96	2,909
	1877	*33,889*	*33,915*	*1,843*	*69,647*	*15,887*	*43,954*	*59,841*	*85*	*9,806*
Khamgaon	1878	475	4,289	94	4,858	289	1,612	1,901	39	2,957
	1877	*392*	*4,194*	*78*	*4,664*	*444*	*2,441*	*2,885*	*61*	*1,779*
Amraoti	1878	1,017	7,143	10	8,170	283	3,277	3,560	43	4,610
	1877	*885*	*6,448*	*9*	*7,342*	*206*	*2,305*	*2,511*	*34*	*4,831*
Northern Bengal	1878	30,922	43,563	14,041	88,526	11,013	57,260	68,273	77	20,253
	*1877**	*1,601*	*1,398*	*1,873*	*4,872*	—	*6,835*	*6,835*	*140*	*Loss 1,963*
Rangoon and Irrawaddy Valley	1878	67,307	27,921	1,068	96,296	29,534	60,047	89,581	93	6,715
	1877	*28,086*	*6,173*	*186*	*34,445*	*10,109*	*34,449*	*44,558*	*129*	*Loss 10,113*
Indus Valley	1878	23,002	33,557	652	57,211	19,979	50,376	70,335	124	Loss 13,144
	1877	*Not opened till 1878.*								
Sindia	1878	5,045	3,507	790	9,342	2,922	9,252	12,174	130	Loss 2,832
	1877	*Not opened till 1878.*								
Dhond and Manmad	1878	4,964	8,002	559	13,525	1,108	16,611	17,719	131	Loss 4,194
	1877	*Not opened till 1878.*								
Tirhut	1878	19,290	15,809	1,816	36,915	5,669	19,449	25,118	68	11,797
	1877	*15,366*	*9,774*	*4,509*	*29,949*	*3,405*	*17,486*	*20,891*	*69*	*9,058*
Totals for State Railways	1878	348,604	518,991	33,437	901,032	166,599	538,646	705,245	78	195,787
	1877	*331,960*	*320,275*	*19,838*	*572,073*	*103,411*	*337,419*	*440,830*	*77*	*131,243*
Grand Total for all Railways	1878	3,139,865	6,738,433	526,455	10,404,753	1,253,399	3,953,539	5,206,938	50	5,197,815
	1877	*2,901,555*	*7,747,063*	*717,220*	*11,365,838*	*1,026,082*	*4,091,287*	*5,117,369*	*45*	*6,245,469*

* Last five months only of 1877.

56. The following tables shew (1) the amount that has been advanced to the several Companies on account of guaranteed interest during the year ended the 31st December last, and (2) the amount advanced to them from the commencement of their respective contracts, together with the amount of net revenue that has been received in repayment of the same.

57. It will be seen that the net amount advanced, which in 1877 was 26,802,303*l.*, has been further reduced to 26,586,039*l.* by the surplus profits earned during 1878.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

STATEMENT of the Total Amount of INTEREST advanced to each of the under-mentioned Railway Companies to the 31st December 1878.

Railway Company.	Interest advanced to 31st December 1877.	Interest advanced during 1878.*			Total.
		England.	India.	Total.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Bombay, Baroda and Central India - -	5,467,979 4 3	401,010 4 3	203 8 3	401,213 12 6	5,869,192 16 9
Eastern Bengal - -	1,888,040 7 5	147,053 13 6	666 15 0	147,720 8 6	2,035,760 15 11
East Indian, Main Line	22,485,533 7 0	1,326,442 8 1	6,514 4 6	1,332,956 12 7	23,818,489 19 7
„ Jabalpur Line - -	2,194,796 5 10	159,609 15 0	240 19 11	159,850 14 11	2,354,647 0 9
Great Indian Peninsula	15,854,160 17 10	1,111,169 15 7	6,358 15 6	1,117,528 11 1	16,971,689 8 11
Madras - - -	7,900,366 13 4	514,794 14 6	—	514,794 14 6	8,415,161 7 10
Oudh and Rohilkund -	1,776,970 8 9	271,567 16 6	2,590 4 11	274,158 1 5	2,051,128 10 2
Sind, Punjab and Delhi	6,930,430 12 10	551,802 5 0	1,959 11 10	553,761 16 10	7,484,192 9 8
South Indian - -	1,713,905 2 1	194,468 16 3	—	194,468 16 3	1,908,373 18 4
Totals - - £	66,212,182 19 4	4,677,919 8 8	18,533 19 11	4,696,453 8 7	70,908,636 7 11

* It will be observed that the Interest advanced *during* the year is here given, while the amount deducted from the net receipts to shew the surplus profits is that which is advanced for the year during which those receipts were realized. It is the practice to pay the guaranteed interest a few days after the half year for which it is due has closed.

India Office, 31st May 1879. THOS. W. KEITH, Accountant General.

A STATEMENT shewing approximately the Amounts advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to the 30th June 1878, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total Amount advanced to 31st December 1878.*	Aggregate of Net Revenue Balances for the several half years to 30th June 1878, inclusive.	Net Amount advanced.
	£	£	£
Bombay, Baroda and Central India - -	5,869,193	2,929,197	2,939,996
Eastern Bengal - - -	2,035,761	1,595,718	440,043
East Indian, Main Line - -	23,818,490	21,031,655	2,786,835
„ Jabalpur Line - -	2,354,647	914,047	1,440,600
Great Indian Peninsula - -	16,971,689	10,803,542	6,168,147
Madras - - - -	8,415,161	3,800,407	4,614,754
Oudh and Rohilkund - -	2,051,129	664,820	1,386,309
Sind, Punjab and Delhi -	7,484,192	1,858,595	5,625,597
South Indian - - -	1,908,374	724,616	1,183,758
Totals - -	£70,908,636	44,322,597	26,586,039

* The Interest for the half year to 30th June 1878 not being paid until the succeeding half year.

India Office, 31st May 1879. THOS. W. KEITH, Accountant General.

STATEMENT shewing the Amount of SURPLUS PROFITS earned by Guaranteed Railways to 31st December 1878 inclusive.

Railway Company.	To end of 1874.	Half year to 30th June 1875.	Half year to 31st Dec. 1875.	Half year to 30th June 1876.	Half year to 31st Dec. 1876.	Half year to 30th June 1877.	Half year to 31st Dec. 1877.	Half year to 30th June 1878.	Half year to 31st Dec. 1878.	Total.
	£	£	£	£	£	£	£	£	£	£
Bombay, Baroda and Central India	10,599	5,934	—	20,397	—	—*	—	—*	—	36,930
Eastern Bengal	25,372	—	—	—	35,347	13,908	99,602	26,158	64,981	265,368
East Indian:										
Main Line	1,733,232	158,539	38,702	352,531	299,133	637,385	530,715	524,253	293,689	4,568,379
Jabalpur Line	11,238	—	—	—	—	62,984	37,297	14,794	11,937	138,250
Great Indian Peninsula	69,555	143,838	—	125,816	—	401,754	34,808	364,895	—	1,140,666
Totals £	1,849,996	308,311	38,702	498,744	334,480	1,116,031	702,422	930,100	370,807	6,149,593

* Surplus profits were earned by the Bombay, Baroda and Central India Railway Company during these half years, but no division took place, owing to the special agreement that all surplus profits should be applied to the construction of the Nerbudda Bridge.

India Office, 31st May 1879. THOS. W. KEITH, Accountant General.

Advances in this country by Government on Revenue account.

58. An alteration has been made in the mode of making advances in this country of funds required for the purchase of revenue stores, and for payments to the families of the Companies' employés. It was at first suggested that, instead of obtaining money for these purposes as heretofore from the Secretary of State, and paying the Government back in India at the rate of exchange (generally 1*s.* 10*d.*) mentioned in the contracts, the Companies should make their own remittances; but in consequence of representations as to the inconvenience which would follow this course, it has been arranged that the payments on Revenue account shall continue to be made through this Office, but that all sums thus paid shall be finally adjusted at the average rate of exchange obtained by the Secretary of State for bills drawn on India. Thus, all transactions in this country, whether Capital or Revenue, are brought into the Indian books of account in rupees at the contract rates of exchange, but as regards revenue payments, the Revenue account will, in future, at the close of each half year, be charged, and the Government will be credited, with the difference in Indian currency between the sums already charged and those chargeable, in accordance with the rates above prescribed for all stores issued during the half year for revenue purposes purchased in England in respect of that half year.

ACCIDENTS.

59. The compiled returns of accidents for the year have not been received from India. With the system of quarterly returns introduced in India in 1878, in accordance with the practice of the Board of Trade, I hope that my next report may be more complete in this respect. For want of any better information, the following table is given, containing a very meagre return of the accidents which have occurred during the year 1878. Compared with the previous year, when 22 passengers died and 10 were injured through causes beyond their control, there is a great improvement. There is a diminution also in the number of railway servants killed and injured from causes they could not prevent, but the lists both of passengers and railway servants who suffered from "their own misconduct or incaution" are longer.

Accidents to Persons during the Year 1878.

	Passengers Killed or Injured from Causes beyond their control.		Passengers Killed or Injured from their own Misconduct or Incaution.		Railway Servants Killed or Injured from Causes beyond their control.		Railway Servants Killed or Injured from their own Misconduct or Incaution.		Persons Killed or Injured at Level Crossings.		Trespassers.		Miscellaneous.		Total Persons of all Classes.		Total Killed and Injured.
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	
Guaranteed.																	
East Indian, Main Line	—	1	12	19	2	7	32	49	5	3	67	7	7	9	125	95	220
" " Jabalpur Line	—	—	—	1	—	1	1	6	—	—	7	—	1	—	9	8	17
Great Indian Peninsula	—	—	1	1	4	12	24	70	—	—	17	8	9	6	55	97	152
Madras	—	1	—	3	—	—	16	19	—	1	10	2	—	1	26	27	53
Bombay, Baroda and Central India.	—	—	—	2	2	3	8	12	1	—	3	1	2	2	16	20	36
Sind, Punjab and Delhi	—	—	1	3	—	—	6	14	2	—	9	1	1	1	19	19	38
South Indian	—	—	1	1	1	10	2	5	1	—	1	1	2	—	8	17	25
Eastern Bengal	—	—	—	2	—	6	6	7	—	1	3	1	—	5	9	22	31
Oudh and Rohilkund	—	1	1	2	5	4	7	9	1	1	21	5	5	—	40	22	62
State.																	
Rajputana	—	1	—	1	2	4	—	1	—	—	7	2	5	—	14	9	23
Indus Valley	5	6	—	—	3	2	2	3	—	—	—	1	1	—	11	12	23
Northern Bengal	—	—	1	1	—	4	3	—	—	—	3	—	3	1	10	6	16
Holkar and Neemuch	—	—	—	1	2	1	5	1	—	—	—	2	1	—	8	5	13
Rangoon and Irrawaddy Valley.	—	2	1	2	1	4	3	5	1	—	1	1	—	—	7	14	21
Dhond and Manmad	Nil	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nizam's	—	—	—	—	—	1	2	5	—	—	—	—	1	3	3	9	12
Punjab Northern	—	—	—	1	—	3	4	2	—	—	—	—	—	—	4	6	10
Tirhoot	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	2	2
Wardha Valley	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	1
Sindia	—	—	—	—	—	1	—	—	1	—	1	1	—	—	2	2	4
Calcutta and South-Eastern Nalhati Khamgaon Amraoti	Nil	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	5	12	18	40	22	63	121	210	12	7	150	33	38	28	366	393	759

TRAFFIC AND WORKING.*

60. In all countries, railway traffic is subject to fluctuations caused by the state of trade. In India, the railways, besides being under this influence, are liable to be affected by famines, pilgrimages, and periodical fairs, as well as by interruptions through floods. Last year, as already shewn under the head of Revenue, there has been a considerable falling off in receipts. This was due entirely to the goods traffic. The passenger traffic, although less in some places, from the effects which the famine had left upon the people, was greater in the aggregate. In the previous year large traffic in grain was caused by the famine, the export of wheat and grain was considerable, and the railway receipts were large in consequence. Last year, the exports of wheat greatly diminished. The abundance of the crop in America so reduced the price in this country that India was unable to compete. American wheat was landed in England at 30*s.* a quarter. Indian could not be supplied at under 40*s.* In comparing the year 1878 with 1877, it must, therefore, be borne in mind that, as regards the movement of merchandise, a year of depression is being compared with one of expansion.

Expenses.

61. Concurrently with a falling off in receipts, there has been a reduction in some of the expenses. For instance, while the number of miles open has increased from 7,143 to 8,095¾, and the average number in the year over which traffic has been carried from 7,021¾ to 7,891½, the train miles run have diminished from 28,965,447 to 26,570,395; or from 4,055 per open mile to 3,367. The total working expenses, however, were in excess of the previous year, having been 5,101,335*l.* compared with 4,883,115*l.* With a falling off in traffic, an increase in the ratio of the expenses may generally be looked for, inasmuch as many of the charges are permanent, and cannot be reduced, whilst others can only be reduced gradually. Last year there were heavy repairs and renewals, yet the amount of expenses per mile of line worked was 646*l.* instead of 695*l.*

Merchandise carried.

62. The aggregate quantity of merchandise carried on all the railways amounted to 7,296,335 tons, compared with 8,309,943 tons in 1877, and 5,794,949 in 1876. The amount received for conveying the same was 6,734,059*l.* in 1878, 7,669,314*l.* in 1877, and 5,651,357*l.* in 1876.

Grain.

63. The chief reduction will naturally be found in grain and rice, which fell, on the guaranteed lines, from 3,433,953 tons in 1877 to 2,188,000 tons in 1878; but this latter was in excess of that carried in 1876 by 704,000 tons. Including the traffic on the State lines, 2,504,600 tons of grain were moved last year. In seeds, the falling off has not been so serious. In 1877, the amount carried by the guaranteed lines was 723,952 tons, compared with 647,188 of last year. Including the State lines, 678,412 tons of seed were carried. The traffic in cotton shews a slight increase, being 247,593 tons in 1878, compared with 230,078 in 1877. Tobacco also shews an increase from 51,256 tons in 1877 to 74,663 tons in 1878. Further details as to the quantity of the various goods carried will be found in the tables on pp. 37 to 39.

Seeds.

Cotton.

Tobacco.

Passenger traffic.

64. The passenger traffic shews an increase in the numbers carried, as well as in the amount received. The numbers were 38,495,743 in 1878, and 34,156,791 in 1877. The gross earnings were 3,143,860*l.*, compared with 2,852,973*l.* The proportion per cent. of first class was ·651; of second, 2·472; and of the lower classes, 96·877. In the previous year, the proportions were ·63 first class, 2·23 second, and 97·14 lower respectively. The lower classes increased from 33,181,971 to 37,326,358, the second from 763,647 to 951,717, and the first from 211,173 to 217,668.

Proportion of goods and passenger receipts.

65. The passenger receipts were 31·30 per cent., in proportion to 68·70 from merchandise and miscellaneous. The previous year the proportions were 25·77 and 74·23 respectively.

* *See* Tables, pp. 40 to 47.

Train mileage.

66. The passenger train mileage was 4,067,449, compared with 3,738,001 of the previous year; the goods 12,723,212, compared with 16,266,457; the minerals 271,246, compared with 302,271; and the mixed goods and passengers 8,934,495, as against 8,098,179.

Working expenses.

67. The expense of working and maintaining the railways during the year amounted to 5,101,335*l.*, compared with 4,883,115*l.* of the previous year. The cost of maintenance was 1,253,397*l.*, or 158*l.* per mile open, and 12·83*d.* per train mile. The cost of working and maintenance together was 5,101,335*l.*, or 4·85*s.* per train mile. The cost of working and maintenance amounted to 646*l.* per mile open, compared with 695*l.* of the previous year.

Details of working charges.

68. Particulars of the working charges of each railway will be found in the tables from page 40 to 47. The main points are given in the subjoined table, some of which are taken from Mr. Rendel's statements on page 35 :—

Line.	Working Expenses per Train Mile.	Cost of Maintenance.		Cost of Locomotive Power per Train Mile.	Cost of carrying		Profit on carrying	
		Per Train Mile.	Per Open Mile.		One Passenger One Mile.	One Ton One Mile.	One Passenger One Mile.	One Ton One Mile.
	s.	*d.*	£	*d.*	*d.*	*d.*	*d.*	*d.*
East Indian { Main	3·18	11·70	276	8·76	} ·15	·2626	·224	·606
East Indian { Jabalpur	3·62	10·86	165	14·11	}			
Great Indian Peninsula	3·74	9·20	213	17·30	·2087	·507	·107	·588
Madras	4·29	12·91	135	17·12	·234	·895	·131	·195
Bombay, Baroda and Central India	4·93	14·21	167	19·10	·197	·452	·151	·721
Sind, Punjab and Delhi	4·48	15·77	196	18·18	·198	·618	·118	·490
South Indian	3·36	9·0	76	16·3	·1327	·77	·194	·236
Eastern Bengal	5·05	11·63	193	14·73	·202	·4	·162	·97
Oudh and Rohilkund	3·60	7·01	75	15·62	·1059	·366	·133	·320
Rajputana	3·45	8·38	92	16·65	·197	·63	·030	·61
Northern Bengal	3·46	6·64	59	16·98	—	—	—	—

69. The Oudh and Rohilkund returns furnish proof of a very economical management, and shew signs of a satisfactory development. With additional traffic the expenditure would be proportionately less. Compared with the East Indian the proportion of expenditure to gross receipts is 54·23 and 34·91 per cent., respectively. But the actual cost of transport as regards passengers is lower on the Oudh and Rohilkund than on the East Indian, where a passenger is conveyed at an expense of ·15*d.* per mile. On the Oudh and Rohilkund it is ·1059*d.* When we come to goods, however, the East Indian is cheaper, being ·2626*d.* compared with ·366. The Oudh and Rohilkund is lower in its average charges both for passengers and goods than any other broad gauge line, and while, compared with some others which command a larger traffic, its profits are less, they are satisfactory, and seem to support the judicious policy of keeping down the expenses of the line and the charges to the public.

70. The cost and consumption of coal and other fuel on the various lines will be found in the following statement. The advantage which the railways in Bengal have over other lines in respect of a cheap supply of good coal is very perceptible. The amount of native coal which is used is more than three quarters of the whole quantity consumed.

STATEMENT shewing the COST and CONSUMPTION of FUEL at the Point of Delivery on the respective Lines during the Year 1878.

Railway.	COAL.						COKE.					PATENT FUEL.					WOOD.				
	Quantity.		Total Cost.	Average Cost per Ton.	Consumption.		Quantity.	Total Cost.	Average Cost per Ton.	Consumption.		Quantity.	Total Cost.	Average Cost per Ton.	Consumption.		Quantity.	Total Cost.	Average Cost per Ton.	Consumption.	
	Indian.	English.			Per Train Mile.	Per Vehicle per Mile.				Per Train Mile.	Per Vehicle per Mile.				Per Train Mile.	Per Vehicle per Mile.				Per Train Mile.	Per Vehicle per Mile.
GUARANTEED.	Tons.	Tons.	£ s. d.	£ s. d.	Lbs.	Lbs.	Tons.	£ s. d.	£ s. d.	Lbs.	Lbs.	Tons.	£ s. d.	£ s. d.	Lbs.	Lbs.	Tons.	£ s. d.	£ s. d.	Lbs.	Lbs.
East Indian, Main Line	162,371	—	44,109 9 5	0 5 5	59·18	2·95	50	11 8 0	0 4 7	—	—	—	—	—	—	—	24	8 11 2	0 6 10	—	—
Ditto, Jabalpur Line	17,661	—	19,773 3 8	1 2 5	48·42	3·02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Great Indian Peninsula	53,494	101,461	212,133 17 0	1 7 4	51·08	2·30	—	—	—	—	—	—	—	—	—	—	1,543	712 12 6	0 9 3	0·51	0·02
Madras	5,759*	8,475	27,445 0 0	1 18 7	14·83	1·35	18	45 0 0	2 10 0	—	—	19	38 0 0	2 0 0	—	—	79,900	33,445 0 0	0 8 4	83·05	5·54
Bombay, Baroda and Central India	3,810	22,264	41,704 14 10	1 12 9	47·73	1·70	—	—	—	—	—	—	—	—	—	—	295	129 16 8	0 8 10	0·55	0·02
Sind, Punjab and Delhi	27,724	5,574	71,029 19 3	2 2 8	37·29	1·39	—	—	—	—	—	—	—	—	—	—	17,045	7,729 18 3	0 9 1	19·09	0·71
South Indian	12,769†	5,887	30,435 12 7	1 12 8	32·38	1·84	2	4 18 10	2 9 5	—	—	—	—	—	—	—	7,653	4,469 13 6	0 11 8	13·95	0·75
Eastern Bengal	15,391	377	13,250 6 5	0 16 10	55·68	2·63	—	—	—	—	—	—	—	—	—	—	74	47 5 8	0 12 9	0·26	0·03
Oudh and Rohilkund	27,578	—	41,382 0 9	1 9 11	44·52	1·97	—	—	—	—	—	—	—	—	—	—	751	341 10 10	0 9 1	1·21	0·05
Totals and averages for Guaranteed Railways	325,957	144,038	501,214 3 11	1 7 7	42·43	2·13	70	61 6 10	0 17 6	—	—	19	38 0 0	2 0 0	—	—	107,285	46,884 8 7	0 9 6	14·82	0·89
STATE.																					
Rajputana	15,151	—	30,302 0 0	2 0 0	31·98	1·52	—	—	—	—	—		—	—	—	—	—	—	—	—	—
Indus Valley	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,178	7,566 5 2	0 14 0	12·11	1·02
Northern Bengal	9,908	—	12,139 16 0	1 4 6	55·61	3·25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Holkar and Neemuch	74	—	148 0 0	2 0 0	20·80	1·61	—	—	—	—	—	—	—	—	—	—	11,779	5,559 10 8	0 9 5	75·01	5·31
Rangoon and Irrawaddy Valley	1,838	—	3,619 5 3	1 19 4	11·46	0·56	—	—	—	—	—	—	—	—	—	—	4,383	2,968 2 0	0 13 6	27·39	1·33
Dhond and Manmad	1,393	—	2,704 6 2	1 18 10	53·93	3·78	—	—	—	—	—	—	—	—	—	—	13	14 4 9	1 0 8	0·52	0·04
Nizam's	4,810	—	8,707 14 7	1 16 2	35·70	2·01	—	—	—	—	—	—	—	—	—	—	18	13 8 4	0 14 5	0·14	0·07
Punjab Northern	2,925	—	9,845 11 9	3 7 3	26·24	1·23	—	—	—	—	—	—	—	—	—	—	4,099	3,426 1 0	0 16 9	36·78	1·72
Tirhut	1,656	—	2,274 12 3	1 7 5	28·88	1·80	—	—	—	—	—	—	—	—	—	—	26	16 12 0	0 12 5	0·40	0·03
Wardha Valley	1,417	—	776 13 10	0 11 0	78·12	3·42	—	—	—	—	—	—	—	—	—	—	6	2 15 3	0 9 2	0·33	0·01
Sindia	635	—	1,235 0 0	2 0 0	40·38	3·22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcutta and South-Eastern	1,070	—	1,001 8 0	0 18 8	57·04	2·73	—	—	—	—	—	—	—	—	—	—	5	3 12 0	0 14 5	0·27	0·03
Nalhati	694	—	656 18 0	0 19 0	36·12	3·59	—	—	—	—	—	—	—	—	—	—	5	3 0 0	0 12 0	0·26	0·02
Khamgaon	271	—	238 11 11	0 17 7	74·68	5·66	—	—	—	—	—	—	—	—	—	—	3	1 4 6	0 8 2	0·83	0·06
Amraoti	94	—	153 4 1	1 12 3	38·26	2·25	—	—	—	—	—	—	—	—	—	—	1	0 11 0	0 11 0	0·13	0·13
Totals and averages for State Railways	41,936	—	73,852 1 10	1 11 7	42·68	2·61	—	—	—	—	—	—	—	—	—	—	31,526	19,585 6 8	0 13 0	12·88	0·81
Indus Steam Flotilla	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	47,543	20,982 4 3	0 8 9	—	—
Totals and averages for all Railways and Flotilla	367,893	144,038	575,066 5 9	1 9 7	42·26	2·37	70	61 6 10	0 17 6	—	—	19	38 0 0	2 0 0	—	—	186,354	87,451 19 6	0 10 5	13·85	0·85

* Includes 1,500 tons shipped from Australia at 29s. 9d. a ton (at Madras).

† Includes 1,686 tons shipped from Australia.

Rates and fares.

71. There was no material change made in the rates and fares* during the year 1878. The lowest passenger fare is on the Punjab Northern, where 1·80 pies, or less than a farthing, per mile is charged. The Oudh and Rohilkund have for some time had a 2-pie rate for the 3rd class, and there is a disposition to apply this rate more generally. The Madras Railway Company have lately followed the example of the South Indian, and have given instructions for establishing the same rate. The Sind, Punjab and Delhi Railway Company have been considering the same. On the South Indian, which is not yet finished, and whose average length worked was 607 miles, it will be seen by a reference to Table No. 1, page 40, relating to Traffic, that more passengers are carried than on the Great Indian Peninsula, which is twice the length, on the Madras, which is a third longer, or on the Sind, Punjab and Delhi, which is also longer. The receipts are not so large, as the distances travelled are shorter, but the effect of the lower rate is to show that Natives, however poor, are ready to use the railway when brought within their means. The number of 3rd class passengers on the South Indian have increased from 3,903,470 to 4,885,525, and the passenger receipts from 152,969*l.* in 1877 to 182,667*l.* in 1878, being at the rate of nearly 20*l.* per cent. in one year, and that a year in which the people were still suffering from the effects of the recent famine. If it is a fact that, when by bringing down the fares to the means of the multitude, the number of those who will use the railway is only limited by the capacity of the line to carry them, the question remaining for solution is simply how the charge can be fixed so as to make it remunerative. To answer this it is necessary, in the first place, to ascertain the cost of conveyance, and if it be correct as shewn in the returns prepared by Mr. Rendel on page 35, that the average cost per passenger per mile, for instance, on the East Indian Main line is ·15*d.*, and that the average sum received is ·374*d.*, leaving a profit of ·224*d.*, there would appear to be good ground for expecting that a moderate reduction in the rate would soon regain, through the larger number of travellers, the amount that would be relinquished in the shape of reduced fares.

72. The table on the next page has been prepared with the view of shewing the effects of the different rates upon the traffic. I have taken the East Indian as an example of a 3 pie rate, but it should be borne in mind that when comparing a long established and flourishing line with the more recently opened lines of the Oudh and Rohilkund and South Indian Railway Companies, the latter are at a disadvantage. It will be seen, however, that while the East Indian, with a uniform length open, during the last five years, increased, per open mile, 21 per cent. in numbers, and 19 per cent. in receipts, the Oudh and Rohilkund with a 2 pie rate increased 25 per cent. in numbers. and 50 per cent. in receipts; the length being 524 miles in the first, and 544 in the four subsequent years. The Great Indian Peninsula with a $2\frac{1}{2}$ pie rate increased 53 per cent. in numbers, and 34 per cent. in receipts. The South Indian, which carried nearly double the largest number per mile opened on any other line, shows a development, but the annual increase in the length interferes with a satisfactory comparison. Taking the last three years, during which the line was extended from 423 to 607 miles, the numbers increased 24 per cent., and the receipts 12 per cent., the last two years covering times of depression in the districts through which the line passes.

* *See* table on page 34.

COMPARISON of the RESULTS obtained on four INDIAN GUARANTEED RAILWAYS from the PASSENGER TICKETS issued at rates of 2, 2½, and 3 pies per mile respectively, during the years 1874 to 1878 inclusive.

Year.	East Indian Railway (Main Line). *Rate: 3 pies per Mile.*					Great Indian Peninsula Railway. *Rate: 2½ pies per Mile.*					Oudh and Rohilkund Railway. *Rate: 2 pies per Mile.*					South Indian Railway. *Rate: 2 pies per Mile.*				
	Number of Miles open.	Results of Passenger Traffic at above Rate.				Number of Miles open.	Results of Passenger Traffic at above Rate.				Number of Miles open.	Results of Passenger Traffic at above Rate.				Number of Miles open.	Results of Passenger Traffic at above Rate.			
		Number carried.		Receipts.			Number carried.		Receipts.			Number carried.		Receipts.			Number carried.		Receipts.	
		Total.	*Per open Mile.*	Total.	*Per open Mile.*		Total.	*Per open Mile.*	Total.	*Per open Mile.*		Total.	*Per open Mile.*	Total.	*Per open Mile.*		Total.	*Per open Mile.*	Total.	*Per open Mile.*
				£	£				£	£				£	£				£	£
1874	1,279½	5,259,190	*4,104*	544,719	*426*	1,266	2,475,597	*1,955*	178,431	*140*	524	1,977,326	*3,773*	94,956	*181*	187	1,499,026	*8,016*	46,002	*246*
1875	1,279½	5,486,925	*4,286*	574,907	*449*	1,266	2,299,552	*1,816*	154,346	*121*	544	2,363,839	*4,337*	122,845	*225*	217	1,529,100	*7,046*	48,025	*221*
1876	1,279½	5,635,182	*4,402*	586,027	*457*	1,268½	3,243,710	*2,558*	203,525	*160*	544	2,536,329	*4,662*	136,834	*251*	423	2,744,187	*6,457*	102,593	*242*
1877	1,279½	6,256,962	*4,888*	644,948	*503*	1,269½	3,350,496	*2,642*	210,796	*166*	544	2,734,300	*5,026*	154,258	*283*	581	3,903,470	*6,715*	136,671	*235*
1878	1,279½	6,375,065	*4,980*	647,909	*506*	1,268½	3,807,757	*3,002*	239,200	*188*	544	2,574,526	*4,732*	148,625	*273*	607	4,885,525	*8,045*	164,918	*271*

FARES and RATES in use on the INDIAN RAILWAYS during 1878.

Railway.	Passengers. Fare for travelling One Mile. First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Goods. Rate for conveying One Ton One Mile. First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth or Highest Class.	Special.
GUARANTEED.											
East Indian, Main Line.	pies.* 18	pies. 9	pies. 4·5	pies. 3	pies. —	pies. 9·073	pies. 13·61	pies. 18·146	pies. 22·685	pies. 27·221	pies. From 4·083 to 9·073.
East Indian, Jabalpur Line.	18	9	—	4	2·5	10	14	24	34	48	From 5·5 to 8.
Great Indian Peninsula.	18	7	—	3·5	2	10	14	18	24	36	From 4 to 8.
Madras - Single	18	7	—	3·5	2	10	14	18	24	36	From 4 to 8.
Madras - Return	27	10·5	—	4·375	—	—	—	—	—	—	
Bombay, Baroda and Central India.	15	7	—	Mail 4 / Ordinary 3 (1st half year). 2·5 (2nd do.)		10	15	21	30	42	Up to 8.
Sind, Punjab and Delhi.	18	9	4·5	3 and 2·25	—	9·07	13·61	18·14	22·68	27·22	From 6·8.
South Indian -	8	3	—	2	—	12	—	—	24	54	From 5 to 8.
Eastern Bengal -	12	6	—	4·5	3	9·11	13·36	19·95	24·45	47·77	From 9·43 to 10·05.
Oudh and Rohilkund	Upper 9	Upper Reserved 36	Lower 2	Lower Reserved 3	Lower Reserved Cmptmnt. 16 & 24	Low 6·80	—	Middle 13·61	—	High 27·22	From 4·53 to 5·44.
STATE.											
Northern Bengal -	18	9	—	2·5	—	9·1	18·3	27·5	—	—	From 6·9.
Punjab Northern -	9·21	3·94	—	1·80	—	11·52	16·52	19·65	—	—	From 5·48 to 6·48.
Dhond and Manmad	17·81	8·91	—	—	2·97	10	14	24	34	48	From 7·95 to 8·06.
Rangoon and Irrawaddy Valley.	10·14	5·07	—	2·53	—	11·4	17·1	22·8	—	—	From 5·7 to 6.
Tirhut - -	15·96	9·55	—	2·39	—	13·62	19·80	27·23	—	—	From 8·15 to 10·26.
Calcutta and South-Eastern.	18	9	—	3	—	10·78	22·17	29·67	—	—	Up to 8·82.
Nalhati - -	17·62	5·29	—	3·52	—	14·77	21·94	32·32	55·19	83·83	Up to 10·95.
Nizam's - -											
Wardha Valley -	18	9	—	4	2·5	10	14	24	34	48	From 5·5 to 8.
Khamgaon - -											
Amraoti - -											
Holkar and Neemuch.	16·84	8·42	—	2·81	2·11	12·73	19·10	25·46	—	—	From 6·37 to 7·96.
†	*12 annas*	*6 annas*	—	*2 annas*	*1a. 6p.*	*108·88*	*163·32*	*217·76*	—	—	*From 54·44 to 68·05.*
Rajputana - †	*8 annas*	*4 annas*	—	*1·5annas*	—	*9 annas*	*13·5 as.*	*1·125 rs.*	—	—	*Annas 6·83.*
Indus Valley †	*12 annas*	*6 annas*	—	*2 annas*	—	‡*4 pies*	‡*6 pies*	‡*8 pies*	—	—	‡*From 2·5 to 3 pies.*
Sindia - †	*8 annas*	*4 annas*	—	*1·5 annas*	—	*9 annas*	*13·5 as.*	*1·125 rs.*	—	—	*Annas 6·85.*

* 8 pies is about equivalent to 1*d*. † Station to station rate (shewn in italics). ‡ Rates for conveying one maund from station to station.

Returns prepared by Mr. Rendel.

73. The returns given below are drawn up on the same principles as those given in previous years. Receipts from demurrage are this year, as in years before 1877, deducted from working expenses.

Conversion from rupees to sterling has been made *in all cases* at 1*s.* 10*d.* the rupee.

(*a*) PASSENGER TRAFFIC.

	East Indian, Main and Jubalpur Lines together.	Great Indian Peninsula.	Madras.	Bombay, Baroda and Central India.	Sind, Punjab and Delhi.	Eastern Bengal.	Oudh and Rohilkund.	South Indian (Standard Line) (Narrow Gauge).	Rajputana (State Lines) (Narrow Gauge).	All [illegible] the
Average length open, miles	Miles. 1,504	Miles. 1,280½	Miles. 358	Miles. 444	Miles. 676	Miles. 171½	Miles. 544	Miles. 611	Miles. 416½	Miles. 6,506
(1.) Receipts from passenger traffic.	£ 976,633	£ 565,890	£ 255,064	£ 217,013	£ 242,110	£ 140,129	£ 157,487	£ 174,723	£ 75,457	£ 2,814,504
(2.) Passenger train miles run	No. 2,734,170	No. 1,672,450	No. 817,177	No. 518,571	No. 779,569	No. 237,289	No. 560,024	No. 628,151	No. 400,544	No. 8,367,885
(3.) Average passenger train mile receipts.	s. d. 7 1¼	s. d. 6 9½	s. d. 6 3	s. d. 8 4½	s. d. 7 2½	s. d. 8 0½	s. d. 6 3¼	s. d. 5 7	s. d. 3 9½	s. d. 6 9·3
(4.) Number of passengers carried one mile.	No. 626,002,225	No. 359,297,776	No. 167,714,000	No. 140,064,140	No. 214,260,762	No. 93,420,000	No. 168,101,840	No. 182,214,000	No. 79,024,000	No. 2,012,040,[illegible]
(5.) Average sum received for carrying a passenger one mile.	d. ·374	d. ·378	d. ·365	d. ·348	d. ·316	d. ·36	d. ·238	d. ·226	d. ·227	d. ·336
(6.) Average number of passengers in a train at any one time.	No. 220	No. 215	No. 205	No. 289	No. 275	No. 236	No. 316	No. 290	No. 197	No. 242
(7.) Average number of passenger trains per diem *each* way, supposing each train to traverse the whole line open.	No. 2·49	No. 1·79	No. 1·3	No. 1·6	No. 1·58	No. 2·6	No. 1·26	No. 1·42	No. 1·32	No. 1·685
(8.) Average number of passengers passing over each mile of line daily (both ways).	No. 1,140	No. 768	No. 536	No. 923·5	No. 808	No. 1,488	No. 796	No. 830	No. 520	No. 856
(9.) Total working expenses for both goods and passengers, deducting telegraph, special and miscellaneous, receipts from them.	£ 1,151,159	£ 1,204,233	£ 435,930	£ 276,624	£ 415,232	£ 152,637	£ 190,669	£ 148,288	£ 160,790	£ 4,178,582
(10.) Average cost of running a train mile, passenger and goods miles assumed to cost the same.	s. d. 2 10·3	s. d. 3 8·88	s. d. 4 0·5	s. d. 4 9	s. d. 4 6½	s. d. 4 9½	s. d. 2 9½	s. d. 3 2½	s. d. 3 2½	s. d. 3 6½
(11.) Average cost of carrying a passenger one mile.	d. ·15	d. ·2087	d. ·231	d. ·197	d. ·198	d. ·392	d. ·1059	d. ·1327	d. ·197	d. ·174

(*b*) GOODS TRAFFIC.

	Miles. 1,504	Miles. 1,280½	Miles. 358	Miles. 444	Miles. 676	Miles. 171½	Miles. 544	Miles. 611	Miles. 416½	Miles. 6,506
Average length open, miles	£	£	£	£	£	£	£	£	£	£
(1.) Receipts from goods traffic	2,522,468	1,926,238	326,430	397,596	425,672	238,725	227,122	112,389	188,959	6,365,599
(2.) Goods train miles run	No. 5,330,309	No. 4,766,525	No. 1,338,360	No. 645,842	No. 1,052,231	No. 307,043	No. 856,366	No. 530,998	No. 535,036	No. 15,438,309
(3.) Average goods train mile receipts.	s. d. 9 5½	s. d. 8 1	s. d. 4 10½	s. d. 12 3½	s. d. 8 1	s. d. 15 6½	s. d. 5 3	s. d. 4 2½	s. d. 6 4½	s. d. 8 3
(4.) Tons of goods carried one mile.	Tons. 637,576,665	Tons. 421,811,240	Tons. 71,874,492	Tons. 81,845,472	Tons. 92,804,360	Tons. 41,866,400	Tons. 79,489,215	Tons. 26,804,899	Tons. 36,500,973	Tons. 1,550,973,356
(5.) Average sum received for carrying one ton one mile.	d. ·868	d. 1·095	d. 1·09	d. 1·173	d. 1·108	d. 1·37	d. ·686	d. 1·006	d. 1·24	d. ·986
(6.) Average number of tons in a goods train at one time.	Tons. 130·8	Tons. 88·5	Tons. 53·7	Tons. 126	Tons. 88	Tons. 136	Tons. 92	Tons. 50 (*see* note)	Tons. 61·3	Tons. 100·4
(7.) Average number of goods trains per diem each way, supposing each train to run over the whole line open.	No. 4·85	No. 5·1	No. 2·14	No. 2	No. 2·13	No. 2·45	No. 2·18	No. 1·2	No. 1·36	No. 3·25
(8.) Average number of tons of goods passing over each mile of line daily (both ways).	Tons. 1,280	Tons. 902	Tons 229·5	Tons. 502	Tons. 373	Tons. 667	Tons. 400	Tons. 120	Tons. 240	Tons. 653
(9.) Total working expenses for both goods and passengers, deducting from them telegraph, special and miscellaneous receipts, and demurrage on goods.	£ 1,154,159	£ 1,204,233	£ 435,930	£ 276,624	£ 415,232	£ 152,637	£ 190,669	£ 148,288	£ 160,790	£ 4,178,582
(10.) Average cost per train mile, goods and passenger miles assumed to cost the same.	s. d. 2 10·3	s. d. 3 8·88	s. d. 4 0·5	s. d. 4 9	s. d. 4 6½	s. d. 4 6½	s. d. 2 9½	s. d. 3 2½	s. d. 3 2½	s. d. 3 6½
(11.) Average cost of carrying a ton of goods one mile.	d. ·2626	d. ·607	d. ·395	d. ·452	d. ·618	d. ·4	d. ·366	d. ·77	d. ·63	d. ·4298

Note.—The South Indian returns this year afford no means of stating the goods

and passenger train mileage run on that line separately. I have therefore assumed the goods train loads on the South Indian to be the same this year as last year, namely 50 tons, and all the figures relating to that line following from the goods train loads depend on this assumption.

On the whole, the Oudh and Rohilkund makes the best appearance. Its average rates, both for passengers and goods, are much less than those of any other broad gauge line. Its train mile cost is less than any line, broad or narrow gauge. Its passenger train loads are the highest, and its goods train loads only are inferior.

Of the two narrow gauge lines, the Rajputana shews a substantial improvement in results, owing mainly to a large increase in its goods traffic, earned without increase in its working expenses. The South Indian makes a worse appearance than last year, chiefly, I find, in consequence of the maintenance of much of its road having fallen in 1877 on Capital, whereas in 1878 the maintenance falls on Revenue.

The most unsatisfactory results will be found on the Madras line, and it is remarkable that this line, the Sind, Punjab and Delhi, the Eastern Bengal, the Great Indian Peninsula, and the Bombay, Baroda and Central India are worked at a much greater cost per train, per ton, and per passenger mile than the Oudh and Rohilkund, though that line has a much smaller traffic than any of them except the Madras.

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74. The following table gives the average work performed by each locomotive engine on the various lines:—

INDIAN RAILWAYS, Year 1878.

Line.	Number of Passengers moved over one Mile per Engine.	Tons of Goods moved over one Mile per Engine.	Number of Train Miles per Engine.
East Indian, Main Line - -	1,262,101	1,406,404	16,679
„ Jabalpur Line - -			16,100
Great Indian Peninsula - -	889,350	1,044,087	15,938
Madras - - - - -	1,433,453	614,277	18,423
Bombay, Baroda and Central India -	2,233,793	1,214,111	17,845
Sind, Punjab and Delhi - -	2,407,424	1,042,745	22,470
South Indian - - - -	1,610,556	233,086	10,679
Eastern Bengal - - - -	2,747,647	1,231,364	18,656
Oudh and Rohilkund - - -	1,796,611	903,286	15,839
Rajputana (State) - - -	963,707	445,133	12,916

STATEMENT shewing the QUANTITIES of the principal Articles of MERCHANDISE, &c., carried on the INDIAN GUARANTEED RAILWAYS in 1877 and 1878.

Articles.	East Indian, Main Line.		East Indian, Jabalpur Line.		Great Indian Peninsula.		Madras.		Bombay, Baroda and Central India.		Sind, Punjab and Delhi.		South Indian.		Eastern Bengal.		Oudh and Rohilkund.	
	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	Included in "Piece Goods."		Included in "Piece Goods."		—	—	4,398	5,003	Included in "Piece Goods."		528	859	2,768	3,528	—	—	—	—
Coal	624,022	692,806	24,672	6,608	5,751	9,640	569	812	2,531	1,119	1,896	5,967	—	—	11,600	12,085	2,129	547
Cocoa-nuts	Included in "Dried Fruits."		Included in "Dried Fruits."		8,794	9,264	5,005	4,288	5,713	5,570	523	671	—	—	—	—	59	39
Coffee	—	—	—	—	575	548	4,161	5,348	21	18	50	57	—	—	—	—	—	—
Cotton	22,753	19,463	2,698	6,651	99,337	123,759	1,684	11,743	45,041	20,192	8,721	5,625	1,031	3,422	1,718	1,624	5,919	5,300
Dried Fruits	7,466	7,151	3,931	4,214	15,140	21,306	—	—	7,271	7,009	6,548	7,593	—	—	—	—	—	—
Firewood	6,376	6,897	5,083	6,363	35,230	35,914	6,930	12,745	6,536	10,950	16,880	18,627	—	—	—	—	12,180	5,591
Grain	411,482	266,980	141,449	83,518	735,541	459,109	594,887	156,907	119,636	151,591	358,043	257,675	233,016	126,543	43,104	24,698	247,422	307,484
Green Fruits and Vegetables	—	—	—	—	14,519	10,643	5,137	6,038	10,914	9,117	4,573	4,932	4,095	5,442	—	—	2,454	2,572
Gunny Bags	29,584	27,990	3,365	2,484	13,440	11,512	6,970	4,369	3,772	2,814	7,677	6,928	—	—	5,098	5,236	—	—
Hides	22,639	30,653	1,557	2,314	10,274	6,764	18,516	10,841	918	1,691	4,083	6,337	2,339	2,415	3,897	4,480	3,140	4,780
Iron	42,883	56,953	4,760	4,909	—	—	8,428	5,939	Included in "Metals."		11,447	17,591	—	—	—	—	4,309	4,845
Jagree and Sugar	103,267	73,862	30,611	22,787	33,857	33,274	11,429	10,326	22,196	24,642	48,280	47,678	—	—	19,376	8,444	64,057	42,869
Jute	942	702	120	72	Railway Materials, &c. 25,274	52,531	—	—	—	—	17	9	—	—	128,309	136,176	6,290	7,554
Metal and Hardware	—	—	—	—	20,895	23,225	—	—	9,249	6,426	2,883	3,332	—	—	1,156	1,259	780	704
Military Stores	21,636	16,380	1,673	1,726	8,841	8,959	4,337	4,209	1,563	1,397	7,949	16,781	—	—	107	356	5,436	3,771
Oil	5,083	7,540	749	382	6,638	8,040	4,148	4,045	4,281	2,601	1,670	2,335	2,275	3,572	—	—	672	993
Opium	12,274	11,832	1	35	3,918	2,915	—	—	795	1,241	49	70	—	—	11	15	1,489	970
Piece Goods	51,633	54,392	6,911	7,744	19,286	21,127	—	—	7,126	6,586	10,908	10,297	5,672	—	12,570	13,646	3,888	4,141
Rice	237,978	222,776	29,148	5,471	—	—	129,658	45,510	Included in "Grain."		7,358	8,847	—	—	119,686	44,414	25,545	26,487
Salt	154,939	165,775	7,280	10,795	86,281	98,297	58,609	48,912	50,887	54,879	19,025	32,583	21,045	16,994	21,300	20,439	43,350	49,503
Seeds	285,222	307,960	49,474	61,312	160,552	108,748	11,511	20,501	45,253	17,517	66,460	26,711	9,995	22,646	42,034	18,122	52,451	63,711
Silk	650	760	46	109	435	439	—	—	Included in "Piece Goods."		92	83	—	—	142	151	8	14
Tea	4,629	2,502	334	380	—	—	—	—	—	—	1,645	1,558	—	—	472	3,388	—	—
Timber	18,863	19,740	535	1,259	4,633	6,746	10,720	11,267	17,647	16,835	8,672	14,686	—	—	—	—	16,483	9,804
Tobacco	14,494	20,096	1,858	6,232	4,168	7,484	6,206	6,507	8,402	10,233	1,014	1,137	2,002	2,375	7,686	9,276	621	1,556
Turmeric	2,836	3,938	63	160	—	—	—	—	—	—	1,527	1,471	—	—	4,179	4,866	—	—
Twist	3,525	5,199	791	692	5,947	5,431	3,819	4,077	2,098	2,011	2,040	1,988	—	—	—	—	863	1,132
Wines, Spirits, &c.	6,001	6,441	549	535	3,274	2,976	2,469	3,120	512	506	2,159	2,186	—	—	281	591	2,710	2,141
Wool	—	—	—	—	752	391	—	—	2,425	1,926	6,418	5,606	—	—	—	—	32	62

STATEMENT shewing the QUANTITIES of the principal Articles of MERCHANDISE, &c., carried on INDIAN STATE RAILWAYS in 1877 and 1878.

Articles.	Rajputana.		Indus Valley.		Northern Bengal.		Holkar and Neemuch.		Rangoon and Irrawaddy Valley.		Dhond and Manmad.		Nizam's.		Punjab Northern.	
	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.
	Tons.	Tons.		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	—	—		40	—	—	22	72	—	—		5	—	—	573	786
Coal	336	707		—	685	3,463	2	40	—	—		595	—	456	—	22
Cocoa-nuts	—	—		5	—	—	1,330	1,418	—	—		106	173	150	—	—
Coffee	—	—		—	—	—	—	10	—	—		—	41	46	5	2
Cotton	4,499	2,686		100	1	43	53	1,630	117	80		3,050	225	174	81	100
Dried Fruits	1,843	1,380		567	1	44	694	948	—	—		346	904	845	1,222	2,557
Firewood	—	—		1	—	—	24	3,201	—	—		—	3,585	9,470	37	197
Grain	38,224	60,492		12,225	46	6,191	27,828	39,892	375	460		3,075	63,940	56,087	13,357	24,080
Green Fruits and Vegetables	—	—		601	4	69	227	289	379	992		70	623	787	766	532
Gunny Bags	1,425	2,183		233	3	1,320	—	—	—	—		66	—	684	555	932
Hides	517	957		213	1	96	327	351	171	122		23	1,273	1,228	698	1,048
Iron	—	—		149	—	—	613	1,933	45	587		400	—	—	907	1,260
Jagree and Sugar	29,899	23,372		1,846	6	375	5,556	7,571	147	727		304	1,321	1,342	4,690	5,958
Jute	613	279		19	97	4,548	4	7	—	—		6	—	—	2	19
Metal and Hardware	2,370	1,882		61	—	1,395	835	1,789	6	123		278	1,211	1,554	326	297
Military Stores	146	149		4,475	6	185	1,313	1,232	50	—		138	1,354	1,584	1,193	3,013
Oil	1,798	2,838		265	—	153	1,951	1,017	—	—		—	415	417	360	259
Opium	—	—		—	—	16	3,396	2,933	—	—		—	62	72	—	—
Piece Goods	2,597	3,034		545	32	4,029	2,790	3,907	165	546		155	1,027	1,023	1,543	1,750
Rice	—	—		875	454	13,116	1,969	3,392	3,321	41,159		78	—	—	460	1,026
Salt	94,755	86,004		216	25	587	438	1,581	144	348		2,061	12,799	15,738	11,122	23,557
Seeds	5,079	9,091		178	—	196	2,483	1,718	200	40		204	2,595	1,163	2,350	2,393
Silk	—	—		9	—	17	1	10	13	41		—	5	5	163	154
Tea	—	—		—	12	2,536	—	—	—	—		—	—	—	301	599
Timber	1,149	1,546		102	—	21	210	936	157	499		34	318	267	3,639	2,351
Tobacco	521	1,666		163	136	1,429	1,619	2,062	128	324		8	135	270	86	80
Turmeric	442	499		13	—	—	—	—	—	—		—	—	—	180	270
Twist	—	—		37	—	—	94	74	—	—		26	354	272	—	31
Wines, Spirits, &c.	225	205		223	11	359	322	408	107	358		11	413	373	1,062	1,783
Wool	478	505		309	—	2	1	7	—	—		—	—	3	189	130

Not opened.

Not opened.

Articles.	Tirhut.		Wardha Valley.		Sindia.		Calcutta and South-Eastern.		Nalhati.		Khamgaon.		Amraoti.	
	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.	1877.	1878.
	Tons.	Tons.	Tons.	Tons.		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	—	—	—	—		—	2	3	—	—	—	—	—	—
Coal	1,187	1,921	27,885	36,411		666	428	729	2,302	3,917	7	104	—	1,058
Cocoa-nuts	—	—	82	92		—	—	—	—	—	151	157	696	876
Coffee	—	—	—	—		—	—	—	—	—	—	—	2	—
Cotton	214	95	3,456	2,804		36	—	—	194	76	16,671	19,032	15,665	19,908
Dried Fruits	142	404	180	265		48	2	1	64	41	327	280	1,384	1,639
Firewood	325	13	—	—		—	19,346	21,303	—	—	168	394	—	—
Grain	3,410	3,465	7,405	12,575		4,602	1,655	1,307	1,500	2,247	7,559	3,882	11,063	7,914
Green Fruits and Vegetables	—	—	—	100		—	—	—	—	11	12	18	44	271
Gunny Bags	360	641	—	232		14	42	59	303	162	—	654	—	531
Hides	1,036	1,163	3	13		21	24	—	67	35	11	9	31	37
Iron	404	437	—	—		—	—	124	—	—	—	—	—	—
Jagree and Sugar	159	1,156	116	130		457	4	3	505	161	355	456	695	985
Jute	7	56	—	—		39	23	15	28	7	—	—	—	—
Metal and Hardware	213	596	185	330		344	68	27	259	353	801	797	928	1,340
Military Stores	—	—	1	—		256	—	—	—	—	—	—	8	32
Oil	20	77	4	21		78	7	7	26	38	11	28	116	210
Opium	—	—	—	—		—	—	—	4	6	22	15	67	85
Piece Goods	1,115	2,835	232	247		230	—	—	1,032	951	211	187	746	871
Rice	2,566	10,572	—	—		—	1,458	2,875	7,093	5,966	—	—	—	—
Salt	2,522	5,100	3,744	4,673		81	4	8	92	544	2,290	2,836	4,240	4,261
Seeds	11,654	10,133	9,087	2,323		161	9	2	617	743	1,536	1,503	4,533	1,376
Silk	—	—	—	1		—	—	—	320	337	1	1	8	5
Tea	—	—	—	—		—	—	—	—	—	—	—	—	—
Timber	150	85	169	382		146	4	10	6	37	94	83	203	170
Tobacco	1,869	3,474	17	13		58	1	4	203	59	17	60	73	97
Turmeric	—	—	—	—		13	—	—	15	92	—	—	—	—
Twist	—	—	30	26		—	—	—	—	—	19	32	189	168
Wines, Spirits, &c.	171	208	8	6		70	—	2	35	32	13	10	45	44
Wool	—	—	—	—		7	—	—	—	—	—	—	—	2

Not opened.

STATEMENTS relating to the PASSENGER and GOODS TRAFFIC and the GROSS

TABLE No. 1.—STATEMENT of TRAFFIC on the INDIAN

Railway.	Actual Number of Miles open on 31st December, and Average Number of Miles of Open Line during 1878.						Number of Miles of Sidings on 31st December 1878.	Passenger Traffic.						Number of Holders of Season and Periodical Tickets.
								Number of Passengers (*exclusive of* Holders of Season and Periodical Tickets).						
	Double.		Single.		Total.			By First Class.	By Second Class.	By Intermediate Class.	By Third Class.	By Fourth or Coolie Class.	Total by all the Classes.	
	Actual.	Average.	Actual.	Average.	Actual.	Average.								
GUARANTEED.														
East Indian, Main Line	409½	409½	870	870	1,279½	1,279½	290¾	42,390	138,144½	523,677½	6,375,065	—	7,079,277	12,124½
East Indian, Jabalpur Line	—	—	223½	223½	223½	223½	22½	4,374½	29,660½	4,802½	295,349	—	334,186½	—
Great Indian Peninsula	325	325	943½	943½	1,268½	1,268½	219¼*	32,289	109,928	—	486,271	3,307,757	4,487,245	979
Madras	42½	42½	814½	814½	857	857	93	14,689	64,079½	—	2,188,158½	440,634	2,707,560	59
Bombay, Baroda and Central India	23¼	23¼	398¼	398¼	421½	421½	75½	18,594	143,497	—	Mail. 425,372 Ordinary. 4,234,379	—	4,821,842	8,086
Sind, Punjab and Delhi	4½	4½	659	659	663½	663½	108½	17,430	75,145¼	25,002½	2,956,983	—	3,074,516	—
South Indian	—	—	612½	607	612½	607	53	15,283	129,263	—	4,885,525	—	5,030,071	5
stern Bengal	—	—	159	159	159	159	43	27,186½	51,184	—	387,198	1,605,500	2,071,168½	2,769
Oudh and Rohilkund	—	—	546¼	544¼	546¼	544¼	66	Upper 20,021	—	—	Lower 2,574,526	—	2,594,547	—
Totals for Guaranteed Railways	804¾	804¾	5,227½	5,219½	6,032	6,024	972	192,257	791,901	553,482½	24,808,781¼	5,853,991	32,209,413	24,022¼
STATE.														
Rajputana	3	3	397	397	400	400	50½	3,339	14,756	—	1,301,451	—	1,319,746	1
Indus Valley	—	—	499	374½	499	374½	36	912	2,450	—	238,408	—	241,770	—
Northern Bengal	—	—	232	185	232	185	21	1,703	5,247	—	428,933	—	435,883	—
Holkar and Neemuch	—	—	272	147½	172	147½	17½	2,563	11,004	—	30,364	675,901	719,832	25
Rangoon and Irrawaddy Valley	—	—	163	163	163	163	23½	3,226½	30,069	—	793,503½	—	878,399	—
Dhond and Manmad	—	—	145	145	145	145	9½	283	1,590	—	1,095	58,358	61,326	—
Nizam's	—	—	121	121	121	121	—	2,148½	8,777	—	8,599	218,630½	238,155	—
Punjab Northern	—	—	103¼	103¼	103¼	103¼	6	3,237	13,818	—	871,561	—	888,616	—
Tirhut	—	—	79	79	79	79	12¼	2,983½	4,462	—	415,084	—	422,534½	—
Wardha Valley	—	—	46½	46½	46½	46½	6	321½	449	—	2,975½	64,375	63,121	—
Sindia	—	—	34	34	34	34	3½	879	2,357	—	131,045	—	134,281	—
Calcutta and South-Eastern	—	—	28	28	28	28	6½	476	3,409	—	594,222½	—	598,107½	—
Nalhati	—	—	27½	27½	27½	27½	1½	990½	7,068	—	129,940	—	137,998½	—
Khamgaon	—	—	8	8	8	8	¾	422	885	—	1,875	30,717½	33,699½	—
Amraoti	—	—	6	6	6	6	¼	896	2,488	—	24,845½	76,644½	104,674	—
Totals for State Railways	3	3	2,050½	1,864½	2,063½	1,867½	195½	25,285½	150,729	—	4,973,532	1,130,626½	6,280,173	26
Indus Steam Flotilla	—	—	—	—	—	—	—	125½	87	—	5,945	—	6,157½	—
Grand totals for Guaranteed and State Railways, and Indus Steam Flotilla	807½	807½	7,288	7,083½	8,095½	7,891½	1,167½	217,668	951,717	553,482½	29,788,258½	6,984,617½	38,495,743½	24,048½

* Campoolee and Mopani Branches treated as sidings.

Receipts and Expenses for the Year ended 31st December 1878.

Railways during the Year ended 31st December 1878.

Goods Traffic.											Railway.
	Number of Tons of Minerals.			Number of Tons of General Merchandise.							
Number of Live Stock.	Number of Tons of Coal and Coke.	Number of Tons of all other Minerals.	Total Number of Tons of Minerals.	Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special and Sundry.	Total of all Classes.	
											Guaranteed.
9,725	692,806	—	692,806	1,399,296	170,177	53,558	23,690	4,624	93,668	1,753,923	East Indian, Main Line.
40	6,608	—	6,608	240,571	23,231	10,064	5,731	283	12,849	293,379	East Indian, Jabalpur Line.
397,494	9,640	—	9,640	160,445	194,997	40,402	21,324	4,029	771,716	1,192,913	Great Indian Peninsula.
12,954	360	—	360	116,446	50,054	18,130	4,706	2,483	340,914	532,739	Madras.
251,314	1,119 / 24,910†	28,773‡	54,802	100,763	40,254	28,024	1,115	1,691	341,291	513,948	Bombay, Baroda and Central India.
2,672	5,967	—	5,967	63,310	73,944	27,905	14,824	3,330	477,342	660,155	Sind, Punjab and Delhi.
3,585	—	—	—	15,689	—	—	2,564	738	366,205	385,196	South Indian.
2,608	12,035	5,724	17,809	31,635	69,774	6,424	875	196	230,562	339,376	Eastern Bengal.
120	547	—	547	Low 115,485	—	Middle 35,128	—	High 2,177	516,637	669,427	Oudh and Rohilkund.
680,512	754,042	34,497	788,539	2,244,050	631,431	221,441	74,829	18,461	3,150,704	6,341,056	Totals for Guaranteed Railways.
											State.
229	707	—	707	111,833	4,743	3,049	—	—	135,838	255,463	Rajputana.
2,279	—	—	—	13,390	5,724	1,087	—	—	9,942	30,033	Indus Valley.
—	3,459	—	3,459	9,589	10,942	3,514	—	—	28,330	52,375	Northern Bengal.
98	40	—	40	71,850	3,642	7,136	—	—	17,795	105,223	Holkar and Neemuch.
9,812	—	—	—	5,520	1,843	813	—	—	48,130	56,306	Rangoon and Irrawaddy Valley.
377	595	—	595	1,622	1,533	443	5,018	12	10,822	17,450	Dhond and Manmad.
457	456	—	456	5,677	6,721	2,452	380	267	86,164	101,661	Nizam's.
12	—	—	—	69,933	6,659	6,032	—	—	34,989	117,613	Punjab Northern.
—	1,921	—	1,921	12,625	3,139	701	—	—	38,782	55,247	Tirhut.
—	33,411	—	33,411	1,494	3,438	415	51	9	19,944	25,351	Wardha Valley.
367	736	—	736	1,783	986	239	—	—	13,230	16,238	Sindia.
103	729	—	729	892	53	68	—	—	31,302	32,315	Calcutta and South-Eastern.
—	3,917	—	3,917	10,331	1,510	998	227	46	1,317	14,429	Nalhati.
—	104	—	104	2,542	19,759	359	22	20	8,814	31,516	Khamgaon.
—	1,058	—	1,058	3,093	24,141	1,417	121	141	14,496	44,009	Amraoti.
13,737	50,133	—	50,133	322,484	99,833	28,753	3,819	495	499,895	955,279	Totals for State Railways.
—	—	—	—	—	—	—	—	—	—	36,610	Indus Steam Flotilla.
694,249	804,175	34,497	838,672	2,566,534	731,314	250,194	78,648	18,956	3,650,689	7,332,945	Grand totals for Guaranteed and State Railways, and Indus Steam Flotilla.

† On Company's account.

‡ Company's own materials.

TABLE No. 2.—STATEMENT of TRAFFIC on the INDIAN RAILWAYS

Railway.	Number of Engines and Vehicles used in conveying Traffic.													Number of Miles travelled in shunting, piloting,			
		Carriages.								Average Number of Vehicles in each Train.							
												In each Mixed Passenger and Goods Train.					
	Engines.	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth Class.	Composite.	Total Number.	Trucks.	Carriages in each Passenger Train.	Trucks in each Goods Train.	Carriages.	Trucks.	By Passenger (including Special and Troop) Trains.	By Goods (including Construction Materials for other Railways) Trains.	By Mineral Trains.	By Mixed Passenger and Goods Trains.
GUARANTEED.																	(P.) (G.)
East Indian, Main Line	446	84	85	49	405	—	13	636	5,806	10½	29½	17½	5½	1,212,265	4,230,576½	267,666½	1,257,912½ 279,524½
East Indian, Jabalpur Line	51	8	14	4	30	—	4	60	881	14½	25¾	9½	14	177,366½	476,695½	—	86,626½ 76,346½
Great Indian Peninsula	404	79	153	—	375	44	83	734	7,321	14½	24¾	10½	11¾	1,403,964	4,460,928	—	268,486 305,597
Madras	117	33	60	—	192	38	32	355	2,744	9	19	7	10	85,872	463,885	—	731,305 874,484
Bombay Baroda and Central India	67	14	19	—	167	—	15	215	2,384	9½	46½	11½	15	361,958	456,410	—	156,613 139,432
Sind, Punjab and Delhi	89	31	44	21	211	—	29	336	2,893	13½	31½	7½	30½	373,168½	853,064½	—	406,340 198,567
South Indian { Broad gauge	12	—	2	—	42	Royal Saloons	7	51	210	—	—	26		—	—	—	1,174,309
South Indian { Metre „	103	29	25	—	367*	3	15	439	1,580								
Eastern Bengal	34	16	4	—	46	52	19	137	722	12	40	8	22	211,600	211,600	—	115,088 95,443
Oudh and Rohilkund	38	Upper 15	—	—	—	Lower 206	27	248	2,136	30	34½	12½	8½	15,860	546,602	—	484,164 319,764
Totals and averages for Guaranteed Railways	1,410	309	406	74	1,835	343	244	3,211	26,677	15	31½	10½	14½	3,842,053½	11,700,361½	267,666½	3,507,134½ 2,339,157½ 1,174,309
STATE.																	
Rajputana	82	27	16	12	113	—	6	174	1,154	18½	22¾	12½	7½	3,579	403,410	—	350,037 245,026
Indus Valley	50	11	11	—	50	—	—	72	648	10	44	7	24	—	—	—	157,743 48,911
Northern Bengal	25	6	5	—	55	—	5	71	510	—	18½	10½	8½	2,809	106,391	—	160,554 127,773
Holkar and Neemuch	42	11	8	—	7	84	15	125	552	13	17	11	10	103,164½	121,523	—	71,013 42,663
Rangoon and Irrawaddy Valley	24	1	1	—	56	—	8	66	128	19	18	15	9	50,110	36,152	—	144,756 81,125
Dhond and Manmad	8	Fluctuating Stock borrowed from Great Indian Peninsula Railway.								12½	11½	7½	6½	1,294	26,260	—	21,789 8,371
Nizam's	8	4	3	—	12	10	1	30	64	18	19	13½	2½	968	212,230	—	64,468 24,159
Punjab Northern { Broad gauge	22	2†	3†	—	30†	—	4†	39†	145†	17½	31	16⅝	6½	43,076	89,130	—	96,617 20,814
Punjab Northern { Metre „	16	3	3	—	41	—	5	52	272								
Tirhut	10	5	3	—	28	—	1	37	195	12	22	8	7	2,984	7,518	3,580	61,463 51,149
Wardha Valley	2	—	—	—	3	2	1	6	21	2½	20½	4½	18½	90	12,435	—	7,722 20,379
Sindia	4	1‡	—	—	5‡	—	—	6‡	22	23½	15½	7½	5½	292	1,850	—	22,857 9,524
Calcutta and South-Eastern	4	—	—	—	43	—	4	47	172	14½	18½	10½	15½	16,888	1,791	—	9,715 13,369
Nalhati	3	2	1	—	5	—	—	8	18	7	8	6	4	109	2,717	—	23,729 10,110
Khamgaon	2	—	—	—	2	2	1	5	31	13½	15	4	9	32	304	—	3,313 4,479
Amraoti	2	—	—	—	2	2	1	5	31	—	17	5	9½	—	1,140	—	1,502 2,278
Totals and averages for State Railways	304	73	54	12	452	100	52	743	3,963	13½	19½	9½	9½	225,305½	1,022,851	3,580	1,197,218 716,675½
Grand Totals and averages for Guaranteed and State Railways	1,714	382	460	86	2,287	443	296	3,954	30,640	14½	25½	10	12	4,067,449	12,723,212½	271,246½	4,704,352½ 3,055,833½ 1,174,309 8,934,494½

* Includes Post Office and Brake Vans.
† Broad gauge carriages and 120 trucks borrowed from foreign lines and worked during the last three months of the year.
‡ Borrowed from East Indian Railway.

during the Year ended 31st December 1878—*continued.*

By Trains (except and assisting).			Number of Ton Miles (expressed in the Number of Tons moved One Mile).												Railway.
				Goods Traffic.											
					General Merchandise.							Total Mineral and General Merchandise.	Proportion of Up and Down Traffic.		
By Trains conveying Materials for Revenue Purposes.	Total Number of Train Miles.	Number of Train Miles per open Mile.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Minerals.	First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Special and Sundry.	Total of all Classes.		Up.	Down.	
	(T.)														GUARANTEED.
174,515½	7,422,459½	5,799·93	5,238,135	135,101,728	379,237,622	75,199,767	18,034,031	7,708,196	1,253,828	24,441,809	505,875,303	640,976,031	42·47	57·53	East Indian, Main Line.
4,077½	821,111½	3,660·77	967,131	1,480,303	45,370,004	4,839,389	2,032,692	1,237,524	57,255	1,833,603	55,300,557	56,870,959	80·71	19·29	East Indian, Jabalpur Line.
—	6,438,975	5,076	3,999,027	990,479	46,297,030	62,273,449	10,076,772	4,836,307	1,399,717	294,368,227	419,251,502	420,241,981	66	34	Great Indian Peninsula.
—	2,155,516	2,512	1,588,496	36,100	18,172,372	9,059,394	3,210,325	1,065,566	540,353	38,707,799	70,815,724	70,851,824	57·4	42·6	Madras.
31,236	1,195,649	2,840	605,741	5,858,977	16,946,456	7,703,442	6,382,067	202,616	460,231	44,812,219	76,506,961	82,425,038	30·04	69·96	Bombay, Baroda and Central India.
168,155½	1,999,895	3,014·5	1,259,054	1,610,362	9,368,133	12,243,276	4,967,155	2,343,794	339,571	61,694,207	90,961,130	92,571,501	50	50	Sind, Punjab and Delhi.
53,818	1,223,157	2,010	188,149	—	1,705,132	—	—	177,921	36,702	24,788,664	26,708,419	26,708,419	44	56	South Indian.
—	634,331	3,089	451,799	1,579,623	2,905,628	9,071,793	767,077	100,399	12,456	27,426,485	40,283,838	41,863,461	23·24	76·76	Eastern Bengal.
27,443	1,303,833	2,561·15	873,739	28,943	Low 12,456,580	—	Middle 4,140,350	—	High 280,065	62,587,208	79,458,193	79,487,141	—	—	Oudh and Rohilkund.
459,275	23,280,957½	3,861	15,211,262	146,686,519	532,453,047	180,449,429	49,610,519	17,697,353	4,380,176	580,719,221	1,365,309,739	1,511,996,255	49·6	50·4	Totals and averages for Guaranteed Railways.
															STATE.
57,054	1,059,103	2,544	281,743	105,959	13,337,706	747,911	605,353	—	—	21,420,903	36,111,873	36,217,832	45	55	Rajputana.
—	208,654	400·5	77,998	—	2,325,879	1,407,886	201,862	—	—	1,672,954	5,608,581	5,608,581	25	75	Indus Valley.
458	397,985	182	524,500	366,042	1,020,578	1,234,581	576,199	—	—	2,972,157	5,812,515	6,178,557	40·09	59·91	Northern Bengal.
3,650½	341,959	2,322	109,308	1,682	4,869,156	681,946	570,564	—	—	1,027,259	7,148,925	7,150,607	44·8	55·2	Holkar and Neemuch.
47,097½	359,246½	2,231·31	153,777	—	635,076	206,976	86,288	—	—	4,872,436	5,800,776	5,800,776	20·59	79·41	Rangoon and Irrawaddy Valley.
174	57,888	398	11,196	26,383	116,363	83,035	25,026	156,347	365	1,011,255	1,392,920	1,419,303	52·48	47·52	Dhond and Manmad.
—	301,825	2,404	129,092	42,520	533,370	700,640	279,399	34,031	31,457	8,589,712	10,219,249	10,261,769	—	—	Nizam's.
3,111	252,743	2,444·37	197,231	—	5,499,296	581,078	536,414	—	—	1,394,195	7,980,984	7,980,984	41·3	58·7	Punjab Northern.
1,833	128,472	1,626	43,646	97,937	495,653	144,180	32,266	—	—	1,597,780	2,269,868	2,367,805	30	70	Tirhut.
—	40,626	883	7,993	1,038,516	44,614	81,962	13,252	1,505	418	573,757	715,148	2,353,704	—	—	Wardha Valley.
701	35,224	1,006	129,660	26,670	60,338	35,383	10,305	—	—	455,042	562,553	589,223	92	8	Sindia.
256	42,019	1,500·6	4,325	19,609	15,506	1,146	1,472	—	—	750,423	768,547	788,156	94·7	5·3	Calcutta and South Eastern.
378	43,043	1,579·5	8,484	102,335	184,067	40,324	26,925	6,087	1,234	33,864	292,501	395,336	61·5	38·5	Nalhati.
—	8,128	1,016	1,490	328	20,340	158,075	2,372	175	158	70,512	252,132	252,960	—	—	Khamgaon.
—	5,520	920	3,089	6,346	22,160	144,844	8,504	723	845	86,979	264,055	270,401	—	—	Amraoti.
114,718	3,290,437½	1,436·7	1,682,197	2,435,327	29,209,607	6,249,677	2,976,681	199,528	34,957	46,530,217	85,200,667	87,635,994	49·8	50·2	Totals and averages for State Railways.
573,993	26,570,395½	3,367·2	16,893,459	149,121,846	561,662,654	186,699,097	52,587,200	17,896,881	4,415,133	627,249,438	1,450,510,406	1,599,632,249	49·7	50·3	Grand Totals and averages for Guaranteed and State Railways.

TABLE No. 3.—GROSS RECEIPTS of the INDIAN RAILWAYS

Railway.	Passenger Traffic.													Receipts from Live Stock.	Receipts from	
	Receipts from Passengers.							Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Receipts for Mail Service.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic.	Passenger Receipts per Train Mile.		From Coal and Coke.	From other Minerals.
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.									
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	£	(P.) s.	£	£	£
East Indian, Main Line	35,612	40,853	38,644	647,909	—	5,214	768,232	73,351	3,297	2,234	34,232	881,346	7·13	1,330	337,595	—
East Indian, Jabalpur Line	5,607	5,783	2,102	56,167	—	—	69,659	9,466	975	—	15,185	95,285	7·21	41	3,135	—
Great Indian Peninsula	39,560	81,956	—	108,187	239,200	1,248	470,101	93,421	1,927	332	—	565,781	6·77	7,314	4,331	—
Madras	16,527	23,280	—	166,336	16,728	137	223,008	30,981	—	1,075	—	255,064	6·24	2,024	144	—
Bombay, Baroda and Central India	5,010	10,634	—	Mail. 52,154 Ordinary. 122,178	—	4,436	194,407	14,255	165	89	8,093	217,014	8·37	14,116	319	*4,50
Sind, Punjab and Delhi	14,085	24,871	4,153	190,547	—	—	233,456	47,085	1,023	547	—	282,111	7·24	1,076	4,500	—
South Indian	2,824	7,160	—	164,918	—	13	174,915	7,295	20	437	—	182,667	3·11	421	—	—
Eastern Bengal	4,408	3,872	—	30,546	82,305	1,414	122,635	16,791	407	296	—	140,129	8·56	18	4,601	35
Oudh and Rohilkund	Upper 7,571	—	—	Lower 148,625	—	—	156,196	15,491	—	117	—	171,804	6·87	7	92	—
Totals and averages for Guaranteed Railways	131,294	198,209	44,899	1,037,512	338,233	12,462	2,412,609	308,136	7,814	5,127	57,515	2,791,201	6·83	26,947	354,687	4,85
STATE.																
Rajputana	1,538	2,184	—	71,558	—	27	75,302	5,049	1,740	226	—	82,317	4·65	109	712	—
Indus Valley	515	375	—	16,341	—	—	17,231	3,045	742	48	1,936	23,002	2·2	1,148	—	—
Northern Bengal	1,612	1,745	—	22,656	—	—	26,013	3,346	1,035	406	122	30,922	3·79	—	1,912	—
Holkar and Neemuch	935	1,588	—	1,832	25,510	66	29,931	2,229	836	332	—	33,328	8·83	35	14	—
Rangoon and Irrawaddy Valley	1,371	7,722	—	55,160	—	—	64,253	2,601	365	88	—	67,307	4·31	2,122	—	—
Dhond and Manmad	115	265	—	107	3,932	—	4,419	279	100	—	166	4,964	4·3	2	168	—
Nizam's	1,287	2,273	—	1,536	15,744	—	20,840	3,196	—	—	—	24,036	7·35	32	145	—
Punjab Northern	1,049	1,542	—	29,416	—	—	32,007	3,147	1,465	482	3,782	40,883	5·85	3	—	—
Tirhut	810	700	—	16,593	—	—	18,103	1,002	180	—	—	19,280	5·99	—	619	—
Wardha Valley	72	46	—	131	1,795	—	2,044	179	—	—	—	2,223	5·69	—	5,285	—
Sindia	165	163	—	4,227	—	—	4,555	490	—	—	—	5,045	4·36	42	192	—
Calcutta and South-Eastern	53	171	—	7,658	—	—	7,882	215	—	—	—	8,097	5·89	12	93	—
Nalhati	237	487	—	4,585	—	—	5,309	389	—	—	—	5,698	4·63	—	628	—
Khamgaon	24	26	—	27	360	—	437	38	—	—	—	475	2·84	—	3	—
Amraoti	38	57	—	283	554	—	932	85	—	—	—	1,017	13·54	—	97	—
Totals and averages for Railways	9,816	19,344	—	232,115	47,895	93	309,263	25,290	6,463	1,582	6,006	348,604	5·29	3,505	9,868	—
Indus Steam Flotilla	694	135	—	2,772	—	—	3,601	454	—	—	—	4,055	—	—	—	—
Totals and averages for Railways and Flotilla	141,804	217,688	44,899	1,922,399	386,128	12,555	2,725,473	333,880	14,277	6,709	63,521	3,143,860	6·61	30,452	364,555	4,85

* Company's own materials carried on Capital Account.

during Year ended 31st December 1878.

Goods Traffic.																
Minerals.	Receipts from General Merchandise (*exclusive of* Live Stock and Minerals).							Total Receipts from Goods Traffic.	Goods Receipts per Train Mile.	Total Receipts from Passenger and Goods Traffic.	Passenger and Goods Receipts per Train Mile.	Total Miscellaneous Receipts.	Miscellaneous Receipts per Train Mile.	Total Receipts from Passengers, Goods, and Miscellaneous.	Total Receipts per Train Mile.	Railway.
Total Receipts from Minerals.	From First or Lowest Class.	From Second Class.	From Third Class.	From Fourth Class.	From Fifth or Highest Class.	From Special and Sundry.	Total.									
£	£	£	£	£	£	£	£	(G.) £	s.	(P.)+(G.) £	s.	(M.) £	s.	(P.)+(G.)+(M.) £	s.	GUARANTEED.
337,505	1,140,916	463,119	154,489	69,450	16,388	128,062	1,972,954	2,311,789	9·67	3,198,135	8·81	111,916	0·30	3,310,151	9·11	East Indian, Main Line.
3,135	139,711	31,332	17,585	13,582	764	8,111	211,085	214,261	7·74	302,546	7·57	32,616	0·79	342,103	8·37	East Indian, Jabalpur Line.
4,331	240,416	518,149	117,871	67,341	32,042	946,715	1,923,034	1,934,079	8·12	2,500,469	7·77	99,647	0·31	2,600,107	8·08	Great Indian Peninsula.
145	82,731	54,567	25,332	11,315	8,934	139,619	322,498	325,266	4·86	580,339	5·38	27,436	0·25	607,766	5·63	Madras.
4,821	86,390	51,331	57,325	3,059	9,597	170,437	378,039	397,596	12·31	614,610	10·56	18,410	0·32	633,020	10·87	Bombay, Baroda and Central India.
4,500	43,788	83,440	43,846	23,681	4,720	214,431	420,906	426,542	8·11	703,653	7·74	32,177	0·35	740,830	8·09	Sind, Punjab and Delhi.
—	10,036	—	—	2,096	956	104,030	117,118	117,530	2·00	300,206	5·11	9,630	0·16	309,845	5·27	South Indian.
4,060	12,625	75,222	7,176	1,304	332	137,028	233,747	233,725	15·55	378,854	11·94	7,704	0·24	386,558	12·19	Eastern Bengal.
92	Low 45,238	—	Middle 31,431	—	High 3,989	167,914	248,572	248,671	5·74	420,475	6·15	41,729	0·61	462,204	6·76	Oudh and Rohilkund.
359,543	1,801,851	1,279,660	455,005	197,388	77,702	2,016,967	5,828,573	6,215,068	8·23	9,006,269	7·87	380,874	0·37	9,386,643	8·26	Totals and averages for Guaranteed Railways.
																STATE.
712	78,353	7,075	7,694	—	—	109,908	203,030	204,451	6·50	236,763	5·72	9,409	0·13	246,177	5·59	Rajputana.
—	12,063	11,797	2,396	—	—	5,633	32,400	33,557	3·2	56,559	5·4	652	0·06	57,211	5·5	Indus Valley.
1,912	3,985	11,589	8,379	—	—	15,698	41,651	43,563	5·88	74,485	4·78	14,041	0·71	88,526	4·45	Northern Bengal.
14	36,171	7,225	9,830	—	—	4,296	56,522	56,571	6·89	89,899	5·31	1,764	0·21	91,663	5·42	Holkar and Neemuch.
—	3,911	1,027	1,144	—	—	18,817	25,799	27,921	1·79	95,228	6·10	1,008	0·06	96,236	6·16	Rangoon and Irrawaddy Valley.
169	770	856	345	1,676	22	4,163	7,832	8,092	4·04	12,968	4·40	559	0·19	13,525	4·69	Dhond and Manmad.
145	3,346	5,407	3,403	542	738	34,660	48,156	48,333	4·09	72,369	4·80	186	0·01	72,555	4·81	Nizam's.
—	32,827	5,001	5,491	—	—	5,948	49,267	49,270	8·06	90,153	7·22	1,647	0·13	91,800	7·35	Punjab Northern.
619	4,029	1,653	503	—	—	9,003	15,190	15,809	5·39	35,099	5·70	1,816	0·28	36,915	5·75	Tirhut.
5,235	390	942	195	30	10	2,097	4,264	9,549	5·82	11,772	5·8	186	0·09	11,958	5·89	Wardha Valley.
192	422	383	142	—	—	2,326	3,273	3,507	6·16	8,552	4·94	700	0·45	9,342	5·41	Sindia.
93	87	13	22	—	—	3,454	3,576	3,681	4·86	11,778	5·52	1,030	0·50	12,828	5·08	Calcutta and South-Eastern.
633	1,414	460	453	175	54	161	2,717	3,345	3·55	9,043	4·15	165	0·08	9,208	4·19	Nalhati.
3	361	2,921	65	5	5	929	4,286	4,289	17·93	4,764	11·72	94	0·23	4,858	11·95	Khamgaon.
97	634	4,156	300	27	42	1,887	7,046	7,143	35·55	8,160	29·56	19	0·04	8,179	29·60	Amraoti.
9,986	181,306	62,065	39,264	2,455	871	219,600	505,618	518,991	8·02	887,595	7·41	33,437	0·21	901,032	7·26	Totals and averages for Railways.
—	—	—	—	—	—	—	—	65,283	—	67,343	—	10,430	—	77,773	—	Indus Steam Flotilla.
369,416	1,983,214	1,341,725	494,269	199,843	78,573	2,236,567	6,334,191	6,797,342	8·13	9,941,207	7·64	424,241	0·29	10,365,448	7·76	Totals and averages for Railways and Flotilla.

TABLE No. 4.—EXPENDITURE ON REVENUE ACCOUNT

Railway.	Maintenance and Renewal of Way and Works.					Cost of producing Locomotive Power by Wages and Materials.			Repairs and Renewals of Carriages and Wagons.			Coaching and Merchandise.			Collection and Delivery of Goods.		
	Ordinary.	Special.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile	Per cent. of Gross Receipts.
GUARANTEED.	£	£	£	d.		£			£	d.		£	d.		£	d.	
East Indian, Main Line	353,420	—	353,420	11·70	10·71	264,489	8·76	8·01	115,322	3·82	3·49	230,274	7·63	6·97	—	—	—
„ Jabalpur Line	36,958	—	36,958	10·86	10·82	48,020	14·11	14·04	15,158	4·45	4·40	15,679	4·61	4·56	—	—	—
Great Indian Peninsula*	252,057	8,550	260,587	9·20	10·01	489,792	17·30	18·82	140,328	4·96	5·41	204,535	7·22	7·91	356	0·01	—
Madras	85,786	30,148	115,934	12·91	19·08	153,744	17·12	25·30	57,679	6·42	9·49	73,428	8·17	12·08	3,109	0·35	0·51
Bombay, Baroda and Central India.	68,353	2,468	70,821	14·21	11·19	95,170	19·10	15·03	22,904	4·54	3·57	54,100	10·86	8·55	1,021	0·33	0·25
Sind, Punjab and Delhi	80,434	51,030	131,464	15·77	17·74	151,563	18·18	20·45	29,218	3·50	3·94	70,153	8·41	9·47	567	0·06	0·07
South Indian	46,183	—	46,183	9·0	14·9	82,415	16·3	26·5	11,625	2·17	3·8	27,385	5·0	8·8	—	—	—
Eastern Bengal	30,717	—	30,717	11·63	7·96	38,882	14·73	10·07	16,462	6·23	4·27	44,035	16·68	11·41	—	—	—
Oudh and Rohilkund	40,714	—	40,714	7·01	8·81	90,725	15·62	19·63	23,012	4·82	6·06	49,721	8·56	10·76	95	0·02	0·03
Totals and averages for Guaranteed Railways	934,622	92,176	1,026,798	11·36	12·35	1,414,800	15·69	17·56	436,408	4·54	4·63	769,340	8·57	8·95	5,748	0·15	0·17
STATE.																	
Rajputana	36,992	—	36,992	8·38	12·48	73,614	16·68	24·85	13,927	3·15	4·70	27,391	6·20	9·24	—	—	—
Indus Valley	19,979	—	19,979	23·2	34·9	19,358	22·1	33·9	3,492	4·06	6·1	8,433	9·7	14·7	—	—	—
Northern Bengal	19,013	—	11,013	6·64	12·44	28,164	16·98	31·81	4,574	2·76	5·17	14,079	8·49	15·90	—	—	—
Holkar and Neemuch	14,251	—	14,251	10·01	15·55	20,349	14·29	23·19	4,342	3·05	4·74	11,080	7·78	12·09	—	—	—
Rangoon and Irrawaddy Valley.	29,534	—	29,534	19·73	30·67	24,404	16·30	25·34	2,209	1·48	2·29	15,668	10·46	16·27	3,035	2·03	3·15
Dhond and Manmad	—	1,108	1,108	4·59	8·19	6,052	25·09	44·76	103	0·43	0·76	2,131	8·83	15·75	—	—	—
Nizam's†	8,956	—	8,956	7·12	12·3	21,258	16·90	29·34	6,298	5·01	8·72	7,703	6·13	10·6	—	—	—
Punjab Northern	6,543	21,046	27,589	26·53	50·05	25,852	24·85	28·16	3,203	3·08	3·49	9,333	9·46	10·72	—	—	—
Tirhut	5,669	—	5,669	10·59	15·36	6,961	13·01	18·86	1,458	2·72	3·95	5,366	10·02	14·54	—	—	—
Wardha Valley†	3,355	—	3,355	19·80	28·12	2,950	17·43	24·71	924	5·46	7·69	2,287	13·51	19·11	—	—	—
Sindia	2,922	—	2,922	19·90	31·27	3,777	23·73	40·43	112	0·76	1·19	1,061	7·22	11·55	—	—	—
Calcutta and South-Eastern	2,856	—	2,856	16·31	22·72	2,987	17·06	23·77	655	3·74	5·21	1,130	6·45	8·99	—	—	—
Nalhati	1,803	—	1,803	10·05	19·93	2,098	11·70	23·24	1,023	5·73	11·39	860	4·80	9·53	—	—	—
Khamgaon†	289	—	289	8·53	5·95	921	27·19	18·96	171	5·05	3·52	509	15·03	10·47	—	—	—
Amraoti†	283	—	283	12·30	3·51	722	31·39	8·82	156	6·78	1·91	825	35·87	10·12	—	—	—
Totals and averages for State Railways	144,445	22,154	166,599	13·71	18·90	239,467	19·53	26·59	42,658	3·60	4·73	108,366	10·05	12·64	3,035	2·03	3·15
Indus Steam Flotilla	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total and averages for Railways and Flotilla	1,139,067	114,330	1,253,397	13·83	16·44	1,654,276	18·12	23·20	479,066	3·92	4·80	877,706	9·87	11·25	8,783	0·46	0·55

* The expenditure includes the cost of working the four State Lines marked †. Expenditure *per train mile*

during Year ended 31st December 1878.

Rates and Taxes.			Compensation for Personal Injury, &c., Damage and Loss of Goods.					Legal and Parliamentary Expenses.			Miscellaneous Working Expenditure, not included in the foregoing.			Total Working Expenditure.			Railway.
Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Personal.	Goods.	Gross.	Per Train Mile.	Per cent. of Gross Receipts	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	
£	d.		£	£	£	d.		£	d.		£	d.		£	s.		GUARANTEED.
4,930	0·16	0·15	98	2,173	2,271	0·07	0·06	1,299	0·04	0·03	181,383	6·01	5·49	1,153,388	3·18	34·91	East Indian, Main Line.
8	—	—	—	667	667	0·19	0·18	2	—	—	31,485	9·25	9·20	147,936	3·62	43·25	Ditto, Jabalpur Line.
930	0·04	0·05	—	23,340	23,340	0·82	0·9	4,356	0·15	0·21	147,470	5·21	5·73	1,271,744	3·74	48·9	Great Indian Peninsula.
1,039	0·12	0·17	1,340	7,321	8,061	0·96	1·42	1,426	0·16	0·24	47,101	5·25	7·76	462,201	4·29	76·05	Madras.
702	0·14	0·11	—	677	677	0·13	0·10	422	0·09	0·07	48,917	9·82	7·73	295,034	4·93	46·60	Bombay, Baroda and Central India.
181	0·022	0·024	—	291	291	0·035	0·039	379	0·045	0·051	64,463	7·73	8·70	448,278	4·48	60·51	Sind, Punjab and Delhi.
662	0·1	0·2	—	400	400	0·01	0·1	354	0·002	0·1	37,500	7·3	12·2	206,524	3·36	66·63	South Indian.
751	0·29	0·12	—	1,800	1,800	0·61	0·47	377	0·15	0·10	27,224	10·32	7·06	160,278	5·05	43·40	Eastern Bengal.
77	0·01	0·02	5	331	336	0·06	0·07	344	0·06	0·07	40,633	6·90	8·79	250,657	3·60	54·23	Oudh and Rohilkund.
9,330	0·11	0·09	1,443	37,000	38,443	0·33	0·37	8,950	0·08	0·09	626,235	7·54	8·07	4,396,090	4·03	52·73	Totals and averages for Guaranteed Railways.
																	STATE.
—	—	—	—	36	36	0·003	0·013	1	—	—	31,261	7·08	10·55	183,222	3·45	61·86	Rajputana.
—	—	—	15	4	19	0·02	0·03	—	—	—	10,074	22·1	33·8	70,355	6·8	122·9	Indus Valley.
5	—	—	—	90	90	0·05	1·10	—	—	—	10,348	6·24	11·70	68,273	3·46	77·12	Northern Bengal.
—	—	—	—	831	831	0·53	0·91	—	—	—	12,152	8·53	13·26	63,011	3·09	68·74	Holkar and Neemuch.
476	0·32	0·49	—	753	753	0·50	0·78	12	0·008	0·01	13,490	9·01	14·01	89,581	4·99	93·03	Rangoon and Irrawaddy Valley.
—	—	—	—	—	—	—	—	—	—	—	8,325	34·51	61·55	17,719	6·13	131·01	Dhond and Manmad.
—	—	—	—	—	—	—	—	—	—	—	9,700	7·71	18·4	53,020	3·57	74·3	Nizam's.
—	—	—	—	1,520	1,520	1·46	1·67	—	—	—	20,380	20·03	22·74	88,391	7·03	96·83	Punjab Northern.
24	0·04	0·07	—	416	416	0·78	1·13	3	—	—	5,221	9·75	14·14	25,118	3·91	68·04	Tirhut.
—	—	—	—	—	—	—	—	—	—	—	1,399	6·26	9·63	10,915	4·03	84·63	Wardha Valley.
—	—	—	—	—	—	—	—	—	—	—	4,302	29·31	46·05	12,174	6·91	130·31	Sindia.
49	0·28	0·39	—	—	—	—	—	—	—	—	1,760	10·05	14·00	9,437	4·49	75·08	Calcutta and South-Eastern.
8	0·04	0·09	—	42	42	0·23	0·47	1	—	—	1,328	7·40	14·71	7,168	3·23	79·42	Nalhati.
—	—	—	—	—	—	—	—	—	—	—	11	0·33	0·21	1,901	4·03	39·11	Khamgaon.
—	—	—	—	—	—	—	—	—	—	—	1,574	68·43	19·83	3,560	12·00	43·62	Amraoti.
582	0·17	0·23	15	3,701	3,716	0·46	0·64	17	0·008	0·01	140,825	16·45	19·25	705,245	3·35	83·06	Totals and averages for State Railways.
—	—	—	—	—	—	—	—	—	—	—	—	—	—	79,733	—	102·52	Indus Steam Flotilla.
9,912	0·13	0·13	1,458	40,701	42,159	0·39	0·48	8,976	0·077	0·096	767,060	13·11	15·05	5,181,068	4·85	71·09	Totals and averages for Railways and Flotilla.

has, therefore, been calculated on the total mileage of the Great Indian Peninsula and State Lines.

SUMMARY.

75. The following is a summary of what is given in the foregoing part of this report.

Length now open.

76. An additional length of 995¼ miles has been opened during the year 1878, making a total distance of 8,215 miles on which traffic is now being conducted. Of the total length open 6,459¾ miles are on the 5 feet 6 in. gauge 1,708 miles are on the metre gauge and 47¼ miles on other gauges. Besides lines under survey there are 1,021¾ miles, of which 231 are on the broad gauge, still under construction. The most important line which has been completed is that along the Indus Valley, which connects the Port of Kurrachee in Sind with the Punjab Railway at Moultan, and thus, with the exception of the crossing of the Indus at Sukkur, a continuous communication by railway *viâ* Lahore, Delhi, Agra, and Benares, to Calcutta, about 2,120 miles in length, is established. A bridge over the Ganges at Benares has been determined on. It will form a part of the Oudh and Rohilkund Railway system, and will be a very important work both from a commercial and strategical point of view. Some of the Native Chiefs are shewing an interest in railway operations within their territories, and have made arrangements for constructing lines in connection with those existing in their neighbourhood.

Railways in connection with the Afghan campaign.

77. The railways in Upper India proved of essential service during the late Afghan campaign. Four thousand men of all arms, in properly arranged proportions, were conveyed from Delhi to Lahore in twenty-four hours, for many days together. By this means 146,000 troops and followers, 15,197 horses, ponies, and mules, 6,227 bullocks, 218 camels, 138 guns, and 33,780 tons of Commissariat and other stores were transported in 184 special trains during the operations.

Purchase of the East Indian Railway.

78. The first term of the lease with the East Indian Railway Company being on the eve of expiration, negotiations were officially commenced in July of last year for purchasing both the Main and Jabalpur lines. Arrangements have been concluded for effecting the purchase by means of an annuity, and for retaining, for 20 years at least, the agency of the Company to work the line as contractors. For the performance of this duty they will receive one fifth of the profits after all charges for the annuity, interest, &c., have been paid out of the net revenue. The annuity of 5*l.* 12*s.* 6*d.* per cent. expires in the year 1953, when the State will be freed from all charge on account of the undertaking.

Shipments.

79. Railway materials to the amount of 215,043 tons, at a cost, including freight, of 2,336,599*l.*, were shipped to India during the year; and besides this, 125,899 tons of coal, 1,326 tons of coke, and 6,874 tons of patent fuel, at a cost of 221,553*l.*, including freight. Since the commencement of railway operations in India, 6,286,146 tons of goods, which, exclusive of freight, have cost 39,363,164*l.*, have been sent from this country.

Stockholders.

80. The total number of holders of Indian railway investments in England and India on the 31st December 1878 was 64,321. In this country 25,053 held stock to the amount of 1,000*l.* and upwards, 34,960 held stock of less amount, 771 held debenture bonds, and 3,000 debenture stock, while 220 Europeans and 317 Natives were registered shareholders in India.

Employés.

81. The number of persons employed on the open lines was 142,199, of which 95·15 per cent. were natives of the country, 2·40 were East Indians, and 2·45 Europeans. One European and one East Indian is on an average employed in about every 2¼ miles, and to each mile there are 17 Natives. The Government of India have given their serious consideration to the subject of educating, in as suitable a climate as can be found in India, the children of the European employés, and the Railway Companies are endeavouring to come to some arrangement for the purpose.

Capital.

82. With regard to expenditure, the capital outlay during the year ending 31st March 1879 was 1,294,816*l.* on the guaranteed lines, and a sum of 3,629,476*l.* had during the year ending the 31st October 1878 been expended on the State lines. The total amount of capital which had been expended on the former was 96,725,679*l.*, and on the latter 21,291,076*l.* The cost per mile of the broad gauge lines in the hands of the Companies (of which about one seventh have a double track) varies from 20,000*l.* to 10,470*l.*, averaging 17,000*l.*. The seven metre gauge lines now working

APPENDIX.

INTERCHANGE OF ROLLING STOCK.

General Rules for the interchange of Rolling Stock between all connected Broad Gauge Railways in India, passed by the Conference of Railway Delegates assembled at Calcutta in February 1879.

PRESENT:

Colonel J. S. Trevor, R. E., *President.*
G. L. Molesworth, Esq., Consulting Engineer to Government of India, Delegate from State Railways, *Vice President.*

Members.

Bradford Leslie, Esq., Agent and Chief Engineer, delegate from East Indian Railway Company.
Franklin Prestage, Esq., Agent, delegate from Eastern Bengal Railway Company.
Colonel J. H. Jenkins, B. S. C., Agent, delegate from Oudh and Rohilkund Railway Company.
D. Ross, Esq., Traffic Manager, Jabez Lightfoot, Esq., Auditor, joint with one vote, delegates from Sind, Punjab, and Delhi Railway Company.
F. Mathew, Esq., Agent and Chief Engineer, delegate from Bombay, Baroda and Central India Railway Company.
H. Conder, Esq., General Traffic Manager, delegate from Great Indian Peninsula Railway Company.
A. M. Saunders, Esq., Agent and Manager, delegate from Madras Railway Company.

Resolution 32.—It was resolved that these rules, subject to the approval of the several Boards of Directors, come into force on the 1st September 1879. It being arranged that any notices which may have been given to terminate existing agreements be considered as expiring on the 31st August 1879.

GENERAL.

Rule I.—The day is to be reckoned as 24 hours, commencing at midnight, Madras time being adopted in all cases. The week to end at midnight on Saturday.
No *dies non* to be allowed under these rules.

Rule II.—All stock to be considered as handed over when entered in the number taker's book at the junction station, and it is to be so entered directly it is put into the lines or sidings in which such stock is usually placed for that purpose.

Rule III.—Passenger carriages, horse boxes, carriage trucks, brake vans, and passenger road or luggage vans, are to be, in all cases, reckoned as coaching vehicles, whether they run upon passenger or goods trains. All other kinds of vehicles are to be reckoned as goods vehicles.

Rule IV.—No return vehicle shall be run, whether loaded or empty, unless otherwise mutually arranged, on any other than the exact route to its own line by which it was received, under a penalty of Rs. 22 per diem from the time it was missent, until it returns to a station on the route by which it was received.
Vehicles may be loaded on their return journey to any station on the owning line.

Rule V.—So soon as the rolling stock of any Railway passes into the custody or possession of any other Railway, such other Railway is to be responsible for all and every contingency that may arise from the use of such stock while it remains in their possession. Except that if the contingency is clearly traceable to defect of material or workmanship, the actual repair or replacement of the vehicle in which there was such defect, but not of any other vehicle or any other consequent damage, is to be at the expense of the owning Railway.
The cost of repairs arising from ordinary wear and tear to be always borne by the owning Railway, but cases of palpable damage (such as dropping heavy weights into wagons and so damaging the bottoms, neglect of greasing or oiling and other similar neglects), and all cases of accidents or collision to be borne by the Railway in whose custody or possession the stock may be at the time the damage occurs.

No claim shall be admitted for the cost of repairs of stock unless sent to the Railway which is responsible for the payment of it within three months of the time at which the repairs are completed.

Rule VI.—Six additional days to be allowed in case of damage to the stock of either Railway on the line of another Railway for the repairs of such stock, and no demurrage shall be charged for those six days. But if the damage is such as will require longer than six days to complete the repair, the stock must be returned to the owning Railway. If not sent within the six additional days, whether repaired or not, demurrage will be charged after the expiration of the six days unless specially exempted by the Traffic Manager of the owning Railway. Notice to be sent within one month to the owning Railway in all cases how and when the damage took place and the nature of it.

COACHING.

Rule VII.—The exchange of passenger stock to be subject in extent to mutual arrangement between the respective Railways.

Rule VIII.—The mileage charge on coaching vehicles to be seven pies per mile both on the outwards journey and in returning, except that no mileage is to be charged on the return journey for horse boxes, carriage trucks, hospital carriages, prison vans, and special saloon carriages not used for ordinary traffic, unless returning under load.

Double horse boxes, while carrying four or more horses, to be counted and charged mileage as two vehicles.

Rule IX.—Coaching vehicles to be allowed one hour for every twelve and a half (12½) miles run on foreign lines, and 24 hours extra at destination, free of demurrage.

Rule X.—Demurrage to be charged on all coaching vehicles detained beyond the time named in Rules VI. and IX. at the rate of eight annas per hour.

GOODS.

Rule XI.—The interchange of goods stock to extend to all connected lines and branches. A fair proportion of through traffic being accepted.

Rule XII.—All consignments of less than three tons to be transhipped at junction. In all other respects the interchange of goods traffic and stock shall be unrestricted.

Traffic managers are at liberty to make exceptions by mutual agreement as to the amount to be transhipped in cases of consignments which, from their bulk or weight, fully occupy a wagon, or require exceptional care, such as furniture, glass-ware, stationery, millinery, pictures, musical instruments, &c., &c.

Rule XIII.—No mileage charge to be made on goods vehicles when running empty.

Rule XIV.—That subject to the proviso in Rules XIII. and XVIII., mileage be paid to the sending Railway for goods vehicles of all descriptions at the rate of two-thirds (⅔rds) of a pie per ton, or a fraction of a ton of goods conveyed in either direction in such vehicles, in respect of every mile a goods vehicle of one Railway may carry goods on the line of another Railway.

Rule XV.—Goods vehicles to be allowed one hour for every six and a half miles run on a foreign line, and 24 hours for unloading and 24 hours for re-loading at destination, and 12 hours at intermediate stations for each of these operations, free of demurrage.

Rule XVI.—Demurrage to be charged on all goods vehicles detained beyond the time named in Rules VI. and XV., at the rate of one anna per ton of carrying capacity per hour.

Rule XVII.—That the receiving Railway may call upon the forwarding Railway to accept empty wagons with a view to equalize the ton-mileage.

Rule XVIII.—The Railway on which through traffic originates shall provide wagons for such traffic. But when the through traffic offering is more than the wagon stock of the sending Railway can cope with, it may call on the receiving Railway to place a certain daily average capacity of wagon stock at its disposal at the junction for traffic to, and *vid* the receiving line; and in the event of failure to comply wholly or in part within one week, the sending line shall be entitled to charge two pies per ton-mile on all traffic to the extent of the wagon stock short supplied, which it may send through in its own stock; provided that the receiving Railway shall not be required to supply more wagons than sufficient to maintain an equal interchange of stock based on the carrying capacity. Open wagons to be accepted if supplied with proper sheets and ropes.

Rule XIX.—In case any goods vehicles are loaded on the homeward journey to any station short of the junction with the owning Railway, the Audit Offices of the respective Railways shall

make a special return of the same to each other, and the mileage charge under Rule XIV. shall be charged to the Railway so loading such wagons.

Rule XX.—Whatever amount is paid for mileage and penalty for wrong sending by any Railway for the use of vehicles of other Railways is in all cases to belong to and be paid over to the owning Railway.

Rule XXI.—Each Railway to accept the statements of other Railways with respect to the loads and wagons, unless the number takers at the junction notice and record that the loads have been interfered with, when the actual contents and their condition must be ascertained and recorded by a responsible officer of the receiving Railway.

Rule XXII.—The accounts referring to any mileage or demurrage question in which any sending Railway is concerned shall be open to the inspection of such Railway.

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For Her Majesty's Stationery Office.

REPORT

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

ON

RAILWAYS IN INDIA,

FOR THE YEAR

1879-80.

BY JULAND DANVERS, ESQ.,

GOVERNMENT DIRECTOR OF THE INDIAN RAILWAY COMPANIES.

Presented to both Houses of Parliament by Command of Her Majesty.

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1880.

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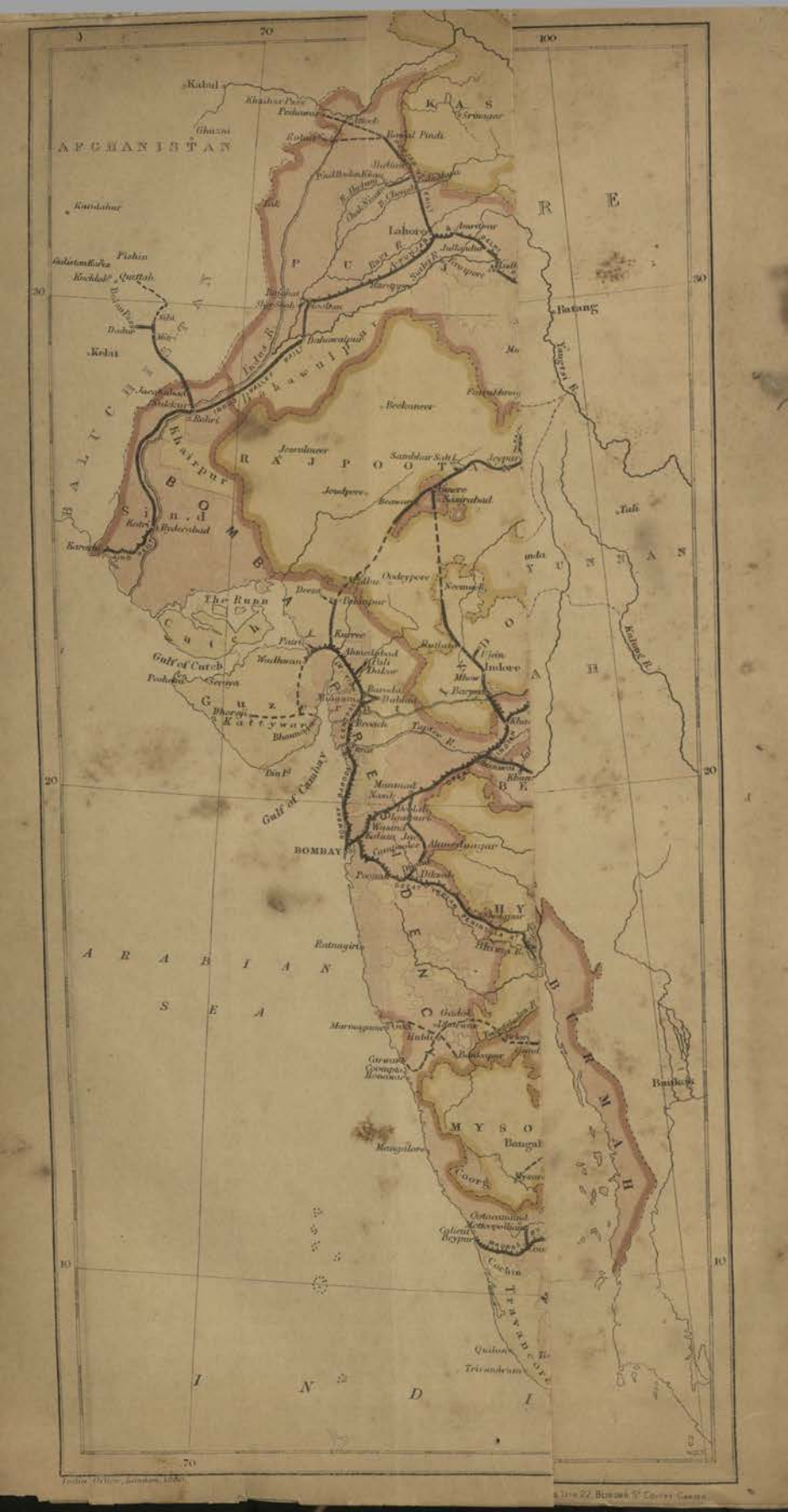
THE
RAILWAYS
OF
INDIA
Statute Miles
Railways & Stations
Proposed or in Progress
The territory under British administration is delineated thus
Native
British
CHINESE EMPIRE
TIBET
AFGHANISTAN
KASHMIR
NEPAL
BHOTAN
ASSAM
BURMAH
MANDALAY
BRITISH BURMAH
RAJPOOTANA
BOMBAY
BOMBAY
CENTRAL
BERAR
HYDERABAD
MYSORE
MADRAS
Pondicherry
CALCUTTA
LOWER BENGAL
BAY OF BENGAL
ARABIAN SEA
INDIAN OCEAN
CEYLON
Andaman Is.
Lassa
Bhamo
Bhuddagaya
Chhattagong
Jeypore Agency
Bundelcund Agency
Gulf of Cutch
Kolhapur
Bangalore
Trichinopoly
Tanjore
Kurnool
Nagpore
Jubbulpore
Allahabad
Benares
Lucknow
Agra
Delhi
Lahore
Peshawur
Kabul
Kandahar
Quetta
Jacobabad
Karachi
Hyderabad
Bhuj
Mandavi
Kolaba
Poona
Sholapur
Bellary
Cuddapah
Nellore
Ongole
Masulipatam
Vizagapatam
Calicut
Cochin
Tuticorin
Mangalore
Goa
Ratnagiri
Surat
Baroda
Ahmedabad
Mhow
Indore
Gwalior
Agra
Meerut
Umballa
Ferozepore
Multan
Sukkur
Jeypore
Ajmere
Jodhpore
Bikaneer
Jaisalmer
Kotah
Bhopal
Saugor
Jubbulpore
Raipore
Sambalpur
Cuttack
Pooree
Midnapore
Burdwan
Dinapore
Patna
Gya
Monghyr
Bhagulpore
Purneah
Dacca
Chittagong
Akyab
Rangoon
Prome
Tavoy
Mergui
Moulmein
Tenasserim
Bhamo
Lassa
Darjeeling
Gauhati
Shillong
Jorhat
Dibrugarh
Sadiya
Kohima
Manipur
Cherrapunji
Goalpara
Rajshahee
Jessore
Khulna
Calcutta
Chittagong
Bhuddagaya
Chhattagong
Jeypore Agency
Bundelcund Agency
Gulf of Cutch
Kolhapur
Bangalore
Trichinopoly
Tanjore
Kurnool
Nagpore
Jubbulpore
Allahabad
Benares
Lucknow
Agra
Delhi
Lahore
Peshawur
Kabul
Kandahar
Quetta
Jacobabad
Karachi
Hyderabad
Bhuj
Mandavi
Kolaba
Poona
Sholapur
Bellary
Cuddapah
Nellore
Ongole
Masulipatam
Vizagapatam
Calicut
Cochin
Tuticorin
Mangalore
Goa
Ratnagiri
Surat
Baroda
Ahmedabad
Mhow
Indore
Gwalior
Agra
Meerut
Umballa
Ferozepore
Multan
Sukkur
Jeypore
Ajmere
Jodhpore
Bikaneer
Jaisalmer
Kotah
Bhopal
Saugor
Jubbulpore
Raipore
Sambalpur
Cuttack
Pooree
Midnapore
Burdwan
Dinapore
Patna
Gya
Monghyr
Bhagulpore
Purneah
Dacca
Chittagong
Akyab
Rangoon
Prome
Tavoy
Mergui
Moulmein
Tenasserim
Bhamo
Lassa
Darjeeling
Gauhati
Shillong
Jorhat
Dibrugarh
Sadiya
Kohima
Manipur
Cherrapunji
Goalpara
Rajshahee
Jessore
Khulna
Calcutta


Kabul
AFGHANISTAN
Ghazni
Kandahar
Pishin
Quettah
Kelat
Khairpur
Jeysulmeer
Jeypur
Jodhpore
Beekaneer
Lahore
Amritsur
Ferozepore
Batang
Tali
Yunnan
Kulong R.
Gulf of Cutch
Gulf of Cambay
The Runn
Cutch
Kattywar
Ahmedabad
Indore
Baroda
Surat
Tapty R.
Mhow
Baglana
Mahadeo Mts.
BOMBAY
Poona
Ghauts
Ratnagiri
Goa
Mangalore
Myso
Bangal
Coorg
Cochin
Travancore
Quilon
Trivandrum
Bankok
ARABIAN SEA
INDIA
Indus R.
Sutlej R.
Jhelum R.
Chenab R.
Ravee R.
Bea R.
Attock
Rawul Pindi
Srinagur
Multan
Sukkur
Hyderabad
Tatta
Kotree
Jacobabad
Dadur
Mirv
Bukkur
Rohri
Sehwan
Bhooj
Mandavee
Nasik
Aurungabad
Jalnapoor
Sholapoor
Beejapoor
Belgaum
Dharwar
Bednore
Mangalore
Cannanore
Calicut
Beypore
Tellicherry
Palacaud
Coimbatore
Ootacamund
Kottaypollam
Cochin
Quilon
Trivandrum
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Broach
Tapty R.
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Ajmeer
Nusseerabad
Jeypur
Sambhur Salt L.
Jeysulmeer
Khairpur
Jacobabad
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Peshawur
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Bankok
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Martaban
Ava
Burmah
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Jeysulmeer
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Gulf of Cambay
Gulf of Cutch
Kattywar
Bhooj
Mandavee
Nasik
Aurungabad
Jalnapoor
Sholapoor
Beejapoor

REPORT.

To the Most Honourable the MARQUIS OF HARTINGTON.

MY LORD MARQUIS, India Office, 28th June 1880.

I HAVE the honour to lay before your Lordship my Twentieth Annual Report on the progress and working of the Railway system of India.

Extent of railway open.

2. At the commencement of the year 1879 the length of railway open for traffic was 8,216 miles, of which 6,044 were in the hands of Guaranteed Companies and 2,172 were under direct State management. During the year a further extent of 395¼ miles (including the section of 133½ miles of the Kandahar line opened in January last) has been completed. The present open system consists of 8,611¼ miles, of which 6,693 are on the 5′ 6″, 1,850¾ on the metre, 27¼ on a 4 feet, and 40¼ on a 2 ft. 6 in. gauge. Twenty-two miles have been added to the Guaranteed, 353 miles to the State, and 20¼ to the Native State lines.

Addition during the year 1879.

3. The principal additions were on the Western Rajputana, which was opened in November from Ahmedabad northward to Pahlunpore, a distance of 82½ miles; on the Rajputana and Malwa line, which has been continued 33½ miles; and on the line from Sukkur on the Indus towards Kandahar. Thirty-three miles have also been added to the Sindia State line south of the Chambal river; the Patna and Gya line has been finished, and 20¼ miles have been added to the Gaekwar of Baroda's Railway. The South Indian Railway Company have likewise opened for traffic the bridge over the Coleroon river and the branch towards Pondicherry, altogether 20¼ miles.

Progress with other lines.

4. Progress has at the same time been made with other works. Attention has chiefly been given to those lines which will serve important political and military purposes on the North-West frontier. The railway system is not now terminated by the frontier. That from Sukkur above mentioned was designed to proceed to Kandahar, *viâ* the Pishin valley and Quetta, a length of about 415 miles, and in its course to connect the military posts between those places.

Frontier Railways. Quetta and Kandahar Railway.

5. The question as to which route should be followed for the extension of the line from Mitri, whence it has been completed, was settled by adopting the line to Sibi through the valley of the Nari. The only alternative was by the Bolan Pass, but this mountain road of narrow ravines presented such formidable difficulties that after consultation with the Engineers employed to survey and explore the eastern route, Sir Richard Temple recommended the line by Sibi, along the course of the Cutchi river up the Pishin valley to Gulistan Kariz, as the most practicable and satisfactory. The last mentioned place is 12 miles from Quetta on the road to Kandahar. The distance from Mitri is about 187 miles, and in Sir Richard Temple's opinion the line, "irrespective of engineering merits, has great administrative and "economic advantages, and is capable of producing a considerable political effect." The construction of this line is now going on.* Surveys for a line as far as Kandahar have been ordered, but a decision as to any further extension in this direction depends on political considerations.

6. The portion at present open from Sukkur to Sibi was carried out with remarkable celerity under the personal supervision of Sir Richard Temple. Commenced early in October 1879, a length of 133½ miles was completed on the 14th January 1880. The Government of India marked their appreciation of this performance in the following terms:—

"The Government of India has viewed with great satisfaction the remarkable progress that has been made in the prosecution of this important work. Platelaying was commenced at Rukh, the junction of the Sukkur-Quetta Railway with the Indus Valley State Railway, on 5th October 1879, and the line was brought into Sibi on 14th January 1880, a length of 133½ miles having been laid in 101 days. The rate of progress is unprecedented in the annals of Indian Railways; and when it is considered that at the time the work was commenced there was little permanent way material in Sind, that all the rest had to be drawn from the various broad gauge lines in India, and that most of this material had to be carried through about 100 miles of country

* Since this was written operations have been suspended in consequence of the state of affairs in the district.

The following STATEMENT shews the Annual Progress made in the Construction of Railways in India since their commencement.

Railways.	Length of Line open at the end of each Year.																								
	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.
GUARANTEED.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Bombay, Baroda and Central India	—	—	—	—	—	—	—	35	134	167½	185	305¾	305¾	305¾	305¾	306¾	307½	312⅜	340¾	389½	389½	406	407¼	416¾	421½	421½	421½
Eastern Bengal	—	—	—	—	—	—	—	—	—	100½**	109¾	109¾	109¾	109¾	109¾	112	112	112	157	157	157	159	158¾‡	159	159	159	158¾‡‡
East Indian (including Jabalpur)	—	37¾	120½	120½	120½	130½	286¼	370½	563¾	877¾	933	1,104	1,127½	1,127½	1,353	1,353	1,353	1,353	1,503½	1,503½	1,503½	1,503½	1,503½	1,503½	1,503½	1,503½	1,504½
Great Indian Peninsula	20½	33¼	49½	87½	87½	193¾	244¼	297	437¾	495	552¾	585½	701½	815¾	852¼	873¾	873¾	1,258½	1,273¼	1,278½	1,278¾	1,278¾	1,278½	1,278¾	1,278½	1,280½¶	1,287¾§§
Madras	—	—	—	65	80½	95½	137	296¾	447½	447½	570*	609½	643¾	643¾	675¾	705½	781½	830½	830½	858	858	858	858	858	858	857††	857
Oudh and Rohilkund	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	42	42	42	42	203½	456½	540½	543¾	543¾	543¾	546¾	546¾
Sind, Punjab and Delhi — Delhi	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53½	53½	271½	303¾	553¾	553¾	553¾	553½	553¾	553¾	553¾	553¾	553¾
Sind, Punjab and Delhi — Punjab	—	—	—	—	—	—	—	—	—	32	45‖	45	253	253	246	246	246	250									
Sind	—	—	—	—	—	—	—	—	109¾	109¾	109¾	109¾	109¾	113	113	113	113	113	113	109¾	109¾	109¾	109¾	109¾	109¾	109¾	109¾
South Indian — Great Southern of India	—	—	—	—	—	—	—	—	48¾	82	82	82	82	120½	143½	167	167	167	167	167	167	185¾	281¾	474¼	590½	612¾	633
South Indian — Carnatic§	—	—	—	—	—	—	—	—	—	—	—	—	18¾	18¾	18¾	18¾	18¾	18¾	18¾	18¾	18¾						
Totals for Guaranteed Railways	20½	71	170	272¾	288½	428¾	626½	839½	1,587¾	2,820½	2,464½	2,911½	3,317¾	3,513¼	3,881¼	3,961	4,209¾	4,711¾	5,008¼	5,301	5,491¾	5,594¼	5,695	5,897	6,029	6,044	6,073¾
STATE.																											
Amraoti	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	6	6	6	6	6	6	6	6
Calcutta and South-Eastern	—	—	—	—	—	—	—	—	—	15	28	28	28	28	23	28	28	28	28	28	28	28	28	28	28	28	28
Dhond-Manmad	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	145½	145½	
Dabhoi (Gaekwar of Baroda's)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20	20	20	20	20	20	40½	
Holkar	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	57	71	71	86	86
Indus Valley	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	499	500
Khamgaon	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	8	8	8	8	8	8	8	8
Muttra-Hathras	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	29	29	29	29
Nalhati	—	—	—	—	—	—	—	—	—	—	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27½	27¾	27½	27½	27½
Neemuch	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36½	36½	86	86
Nizam's	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121	121	121	121	121
Northern Bengal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	134½	232½	242½
Patri	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22½	22½	22½	22½	22¾	22½	22½
Punjab Northern	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	62	103½	103½	103½	103½
Rajputana — Delhi District	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53½	142	379¾	400	400	400	462
Rajputana — Agra "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33	150					
Rangoon and Irrawaddy Valley	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	163	163	163
Sindia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34	67
Tirhut	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53*	45	45	79	79†	82
Wardha Valley	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18½	18½	18½	46¼	46½	
Western Rajputana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33½	82½
Patna-Gya	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	57
Totals for State Railways	—	—	—	—	—	—	—	—	—	15	55½	55½	55½	55½	55½	55½	55½	63½	69½	69½	203½	633½	824	936	1,295	2,172	2,405
Totals for all Railways	20½	71	170	272¾	288½	428¾	626½	839½	1,587¾	2,835½	2,520	2,967	3,373	3,569	3,936¾	4,016½	4,265	4,775½	5,077¾	5,370½	5,695	6,227¾	6,519	6,833	7,324	8,216	8,477½

* A temporary line (53 miles) was constructed in 1874 for the conveyance of grain to the famine districts.
† The old Ganges bank station, which is one mile from Bajitpur, has been shifted, on 23rd December 1878, to a point seven miles further up the river and immediately opposite Barh-Ghat. This line is a tramway only, and is proposed to be taken up and relaid every year.
‡ Half a mile of the Main Line at Goalundo, which was abandoned in September 1875 on account of erosion in the river bank, was relaid in 1876; thus on 31st December 1875 the open length was less than that on the same date in 1874.
§ This line was called the "Conjeveram Tramway" until 1869.
‖ In 1863, a length of 13 miles from Moultan to the river bank at Sher Shah was opened, but owing to the river silting up its bed at this Ghat, the Sher Shah section was abandoned in favour of a branch to Rajghat.
¶ The difference in lengths is owing to the Main and Nagpur Lines from Bhusawal being now treated as two single lines instead of one double to point of divergence.
** Includes the length (1¼ miles) from Jagati Junction to Kooshtea engine shed.
†† This has been found, after re-measurement, to be the correct mileage.
‡‡ Quarter of a mile of this line has been utilised for the junction with the Port Trust Tramway.
§§ Additional length caused by the reopening of the Campuli Branch, after closure since 1872.

22. The principal damage caused by floods during the past year was on the Oudh and Rohilkund Railway near Bareilly. Early in September, about 1,100 feet of the railway embankment adjoining the right abutment of the Ramgunga bridge was washed away owing to the river having, when in full flood, changed its course, and reverted to an old channel, which had remained closed for many years. In about a month after, a temporary diversion of the line, having a fair weather pile bridge, was opened, and, until the 29th February, did good service. On the morning of that day, two hours after the mail train had passed over it, the bridge began to give way under the pressure of water caused by the rapid rise in the river. In the words of the Resident Engineer, Mr. Granville Walton, "pile after pile began to settle down, and at "5.30 p.m. the whole bridge, except four spans at each end, suddenly turned com- "pletely over." Flood damages, Oudh and Rohilkund, Ramgunga Bridge.

23. In August the Eastern Bengal line was threatened. The floods on the Brahmapootra and Ganges were very high, overflowing the line in places, and rising as high as the roadway on some of the bridges; but no serious damage was done. Eastern Bengal.

24. The nature of the arrangement which was made last year with the East Indian Railway Company for continuing in their hands the management of the undertaking after it had been purchased by Government, was described in my last Report. A copy of the contract which has been concluded with the Company will be found in the Appendix (No. 1). It came into operation on the 1st January last, and has been working satisfactorily. Colonel E. C. S. Williams, R.E., C.I.E., has been appointed Assistant Government Director. He attends all Boards and Committees at which the Government Director is not present, and may exercise all the powers which that officer possesses. From the commencement of the new arrangement there will be no separate account of the Main or Jabalpur lines, which are to be treated in every respect as one and the same concern. New Contract with the East Indian Railway Company.

25. An Act was passed by the Governor General of India in Council, in March 1879, for the purpose of consolidating and amending the law relating to railways in India. A copy thereof will be found in the Appendix (No. 2). It was provided, under Clause 8, that "every Administration" (which is defined as meaning "in the case of a railway "worked by Government or a Native State, the manager of such railway, and in the case of a railway worked by a company or private individual, such company or "individual") shall make general rules for the following purposes:— Railway Act.

"(*a*) For regulating the mode in which, and the speed at which, carriages and wagons used on the railway are to be moved or propelled;

"(*b*) For regulating the maximum number of passengers which each carriage and compartment may carry, and the mode in which such number shall be denoted thereon;

"(*c*) For regulating the provision to be made for the accommodation and convenience of passengers;

"(*d*) For declaring what shall be deemed to be, for the purposes of this Act, dangerous goods; and,

"(*e*) Generally for regulating the travelling upon, and the use, working, and management of, the railway."

26. In pursuance of this provision, the Railway Conference, which assembled in Calcutta on the 6th January last, and consisted of Major-General J. S. Trevor, R.E., Director General of Railways, as President, Mr. Bradford Leslie, Agent and Chief Engineer of the East Indian Railway, as Vice President, and twenty delegates from the Guaranteed and State Lines, proceeded to frame such general rules and regulations as would be applicable to the working of all lines of railway in India. Broad principles having been laid down by the Conference, a code of rules was settled by a Committee, and will be brought into operation on the 1st September next. Various other questions also engaged the attention of the Conference, and amongst them the convenience of adhering to the uniform standard of weight prescribed by the Government of India years ago for railway purposes, and it was settled to adopt in future the standard maund of 82·29 lbs. on all railways in India. Railway Conference. Rules and Regulations for working railways.

27. With the view of encouraging thrifty habits on the part of servants employed on the State railways, a system of compulsory saving has been devised, and rules have been established by Government requiring a deduction from the salary of every married servant, or widower with children dependent on him, not being of purely Asiatic descent, and of any other servants who may in writing so desire, of one anna State Railway Savings Banks.

from each rupee; and half an anna from each rupee of the salary of every other servant. A contribution from the earnings of the line to the extent of one half per cent. of the net earnings during the *half* year is then to be distributed among the depositors in proportion to the deposits made on their behalf during the said half year; and, if the net earnings of the *whole* year exceed 4½ per cent on the capital cost, an additional one half per cent. is also distributed, provided that the bonuses in one year or half year shall in no case exceed the amount of the compulsory deposits.

Railways in connection with Afghan campaign.

28. I alluded in my last report to the service which had been rendered by the railways in the prosecution of the Afghan campaign of 1878–79. When operations had to be renewed in the autumn of last year, the railways were again brought into requisition, and the work done by them may be learned by the following extract from a report by Mr. Ross, the traffic manager of the Sind, Punjab and Delhi line.

"Information as to the massacre of our Embassy at Kabul reached India about the 7th September 1879, and almost immediately afterwards the military authorities issued orders for the movements of troops.

"Transport animals and stores were despatched from every part of India towards Peshawur, from Sind, Bombay, Madras, Bengal, and other provinces.

"The following is a statement for each month from September to the end of May last:—

	No. of Specials.	Troops and Followers.	Horses, Mules, and Ponies.	Bullocks.	Camels.	Guns, Artillery, and Engineers' Carriages.	Military Baggage, Commissariat, and Ordnance Stores.
1879.							Maunds.
September - -	25	11,403	3,053	42	302	—	42,449
October - -	65	21,806	11,044	1,093	2,328	12	160,142
November - -	22	20,084	18,583	30	692	—	296,717
December - -	14	13,478	4,673	—	588	36	228,435
1880.							
January - -	28	26,318	7,874	—	645	9	117,310
February - -	16	19,436	2,782	85	342	—	97,078
March - -	5	11,892	663	300	507	—	97,085
April - -	7	9,538	2,556	2,425	1,932	—	226,377
May - - -	10	10,868	2,896	288	1,268	—	70,000
Total - -	192	144,823	54,124	4,263	8,604	57	1,335,593

29. The number of troops and followers is rather less in the second than in the first campaign. In 1878–79 they were 191,605, in 1879–80 they were 144,823. But the horses and mules were more than double, viz., 54,124 compared with 26,578, and the camels numbered 8,604, instead of 973. Bullocks were less, being 4,263 compared with 7,553. Up to the end of May last the gross military traffic booked under Government warrants during the two campaigns was 336,428 troops and followers, 80,702 horses, ponies, and mules, 11,816 bullocks, 9,577 camels, 414 guns, Artillery and Engineers' carriages, 2,749,605 maunds of Commissariat, Ordnance, and Military stores, and 681,653 maunds of railway material.

30. Mr. Ross alludes in his remarks to the necessity for making very careful arrangements with regard to the transport of animals, which form so important an item in these expeditions, and he throws out suggestions as to their treatment which are worthy of the attention of railway managers. The supply of food, and especially of water, during the journey is a matter requiring systematic care, and he recommends that iron troughs should be fixed at the end of the open wagons, to receive a supply of water when opportunity offers. Mr. Ross concludes by saying "that all the troops, "horses, live stock, and war material were conveyed with punctuality and absolute "safety, not the slightest accident or loss having occurred to life or property, not-"withstanding that a very heavy public traffic passed over the railway during both "campaigns."

SHIPPING OPERATIONS.

31. The following tables relate to the shipping operations of the past year.

32. While giving these statements, I may take the opportunity of alluding briefly to the discussions which have taken place during the last twelve months in connection with the management of the freight business of the Indian Government and the guaranteed Companies. An investigation was made by a Departmental Committee into the system under which tonnage for India was obtained by the Store Department of this Office and by the guaranteed Railway Companies. The practice of the Director General of Stores was to advertise publicly for tenders to convey whatever stores were ready for shipment, and to accept the lowest tender which answered to the conditions of the advertisement; but in special cases advertisement was dispensed with when it was thought that inconvenience and loss might arise therefrom. Latterly, to counteract a combination amongst shipowners and brokers who settled the rates to be charged to the public, vessels have at times been chartered and loaded with Government stores when a sufficient quantity had accumulated. The Companies had no fixed system, but adopted public competition or negotiation in the market through brokers, whichever was thought advisable under the circumstances at the time when freight was required. Their usual practice was to follow the latter course. The result of the Committee's inquiry has been to make competition the rule, and to cause public notice to be given of all requirements. A statement is now exhibited in each railway office every week, containing information as to the quantity and description of goods to be shipped, the time they will be ready, and the route by which they are to be conveyed to their destination. Tenders are then received from shipowners and brokers on certain fixed days, and the most advantageous offer is accepted. When the quantities are large, advertisements are inserted in the newspapers. While this is the usual practice, there are times and circumstances when it is found expedient to make exceptions to the rule, and then resort is had to private inquiry and negotiations. This is done either direct by the managers of the Railway Companies, or through the medium of brokers. The object at all times is to make the best and most economical arrangements. A record is kept of the engagements made by the different Companies and by the Director General of Stores, in order that a comparison may be concurrently made of the rates offered, for the information and guidance of all concerned.

SHIPPING OPERATIONS, exclusive of Fuel, during 1879, on account of Guaranteed and State Railways.

Port.	Railway.	Route.	*Number of Ships employed.	Number of Tons of Goods shipped.	Value of Goods shipped.	Amount paid for Freight and Insurance.	Average Rate of Freight and Insurance per Ton.
				Tons.	£	£	£ s. d.
To Calcutta	GUARANTEED.						
	Eastern Bengal	*vid* Suez Canal.	10	837	8,027	1,478	1 15 3
		vid Cape of Good Hope.	21	3,292	32,021	5,872	1 15 8
	East Indian	Canal	26	1,717	25,334	3,252	1 17 10
		Cape	53	36,801	208,151	41,304	1 2 5
	Oudh and Rohilkund	Canal	25	2,494	45,761	4,980	1 19 11
		Cape	6	1,000	16,260	1,044	1 0 11
	STATE	Canal	76	19,562	142,011	34,751	†1 15 6
		Cape	10	4,589	33,429	6,461	†1 8 2
	Calcutta Totals and Averages		227	70,292	510,994	99,142	Canal 1 16 1 Cape 1 3 11
To Bombay	GUARANTEED.						
	Bombay, Baroda and Central India.	Canal	30	13,420	125,104	12,553	1 13 7
		Cape	—	—	—	—	—
	Great Indian Peninsula.	Canal	58	38,637	266,037	61,102	1 11 8
		Cape	—	—	—	—	—
	STATE	Canal	70	26,315	173,664	45,003	†1 14 2
		Cape	6	1,031	8,025	996	†0 19 4
	Bombay Totals and Averages		164	79,403	572,830	119,654	Canal 1 10 3 Cape 0 19 4

* Probably these numbers include ships which have been employed by different Companies (and perhaps Government also) on the same voyage.

† These figures do not include insurance. Except in special cases, Government do not insure.

SHIPPING OPERATIONS, exclusive of Fuel, during 1879—*continued.*

Port.	Railway.	Route.	*Number of Ships employed.	Number of Tons of Goods shipped.	Value of Goods shipped.	Amount paid for Freight and Insurance.	Average Rate of Freight and Insurance per Ton.
	GUARANTEED.			Tons.	£	£	£ s. d.
To Madras	Madras	Canal	23	1,110	21,646	2,084	1 17 6
		Cape	4	753	11,024	1,273	1 13 9
	South Indian	Canal	8	1,860	7,241	3,200	1 14 5
		Cape	13	8,309	41,020	10,853	1 6 1
	STATE	Canal	1	1,895	10,383	2,748	†1 9 0
		Cape	—	—	—	—	—
	Madras Totals and Averages	-	49	13,927	91,314	20,158	Canal 1 13 0 Cape 1 6 9
To Kurrachee	GUARANTEED.						
	Sind, Punjab and Delhi	Canal	34	18,883	176,426	28,604	1 10 3
		Cape	1	300	2,022	434	1 8 11
	STATE	Canal	38	24,878	223,406	47,080	†1 17 10
		Cape	1	42	582	57	†1 7 1
	Kurrachee Totals and Averages	-	74	44,103	402,436	76,175	Canal 1 14 7 Cape 1 8 8
To Rangoon	STATE	Canal	4	18	830	52	†2 16 0
		Cape	—	—	—	—	—
	Totals and Averages for all Ports	-	518	207,743	1,578,404	315,181	Canal 1 12 6 Cape 1 4 4

* Probably these numbers include ships which have been employed by different Companies (and perhaps by Government also) on the same voyage.

† These figures do not include insurance. Except in special cases, Government do not insure.

AMOUNT and COST of COAL and other FUEL sent out from this Country in 1879.

Railway.	Number of Tons supplied from England.			Total original Cost.			Sum paid for Freight and Insurance.	Average Cost of each Ton when bought in England.			Average Cost of each Ton when landed in India.		
	Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.		Of Coal.	Of Coke.	Of Patent Fuel, &c.	Of Coal.	Of Coke.	Of Patent Fuel, &c.
GUARANTEED:				£	£	£	£	£ s. d.	£ s. d.	s. d.	£ s. d.	£ s. d	£ s. d.
Bombay, Baroda and Central India	37,466	450	—	58,757	1,002	—	—†	1 11 4	2 4 6	—	1 11 4	2 4 6	—
Eastern Bengal	400	—	—	250	—	—	290	0 12 6	—	—	1 7 0	—	—
East Indian	—	—	All the fuel for this line is obtained in India.								—	—	—
Great Indian Peninsula	101,348	—	—	41,040	—	—	125,958	0 8 1	—	—	1 12 11	—	—
Madras	—	1,488	8,393	—	870	3,833	13,173	—	0 11 8	9 1	—	2 2 8§	1 15 0§
Oudh & Rohilkund	—	—	All the fuel for this line is obtained in India.								—	—	—
Sind, Punjab and Delhi	1,565	—	—	2,685	—	—	—†	1 14 3	—	—	1 14 3	—	—
South Indian	—	—	No fuel supplied from this country during 1879 (*see* Note ‡).								—	—	—
STATE RAILWAYS	2,500	—	—	4,970*	—	—	—†	—*	—	—	1 19 9	—	—
Totals and Averages	143,279	1,938	8,393	107,702	1,872	3,833	139,421	0 15 0	0 19 3	9 1	—	—	—

* The sum 4,970*l.* was the contract price for delivery in India.

† Included in original cost.

‡ 29,507 tons of coal were obtained by this Company from Australia, at a total cost of 44,974*l.*

§ Excluding inspection, landing and other charges at Madras.

SHIPMENTS FROM THE COMMENCEMENT.

Period.	Number of Ships employed.*	Number of Ships lost.	Number of Tons of Goods shipped.	Amount paid in England for Goods shipped.
				£
Up to end of 1860	2,605	39	2,094,686	10,431,976
In 1861	407	—	181,621	1,669,443
„ 1862	280	1	138,013	1,487,582
„ 1863	279	2	166,840	1,285,464
„ 1864	233	—	102,318	1,018,164
„ 1865	442	2	199,157	1,729,543
„ 1866	581	7	312,227	2,527,757
„ 1867	512	5	333,329	3,052,652
„ 1868	364	3	188,858	1,849,554
„ 1869	455	1	211,750	1,432,784
„ 1870	461	1	263,449	1,688,209
„ 1871	307	6	168,049	707,765
„ 1872	318	1	66,534	655,822
„ 1873	404	2	201,590	1,561,602
„ 1874	426	5	265,114	2,042,136
„ 1875	421	—	288,186	1,518,991
„ 1876	587	—	296,801	680,929
„ 1877	539†	5	458,482‡	1,918,539
„ 1878	582†	2	349,142‡	2,104,252
„ 1879	518†	3	361,353‡	1,691,811
Totals	10,721	85	6,647,499	41,054,975

* These numbers probably include ships which have been employed by two or more Companies at the same time.
† Exclusive of ships conveying coal and other fuel. ‡ Includes coal and fuel tonnage.

33. The following statement shows the number of persons holding investments in Indian railway securities on the 31st December last. In the previous year the number of shareholders in England was 60,013, compared with 59,084 of last year, and in India 537, compared with 301. Share-holders.

Railway.	Number of Shareholders on 31st December 1879.						Number of Debenture Holders.		Total Number of Proprietors on the 31st December 1879.
	Registered in England.			Registered in India.					
	With Stock or Shares to the Amount of 1,000*l.* and upwards.	With Stock or Shares of less Amount than 1,000*l.*	Total in England.	Europeans.	Natives.	Total in India.	Bonds.	Stock.	
Bombay, Baroda and Central India	2,480	3,958	6,438	12	31	43	38	—	6,519
Eastern Bengal	709	1,083	1,792	8	17	25	31	223	2,071
East Indian	6,980	8,170	15,150	—	—	—	192	893	16,235
Great Indian Peninsula	5,857	8,007	13,864	43	94	137	131	1,612	15,744
Madras	3,232	4,511	7,743	—	—	—	414	—	8,157
Oudh and Rohilkund	1,145	1,508	2,653	29	20	49	—*	171	2,873
Sind, Punjab and Delhi	3,482	5,483	8,965	38	9	47	—	—	9,012
South Indian	989	1,490	2,479	No register in India.			47	153	2,679
Totals	24,874	34,210	59,084	130	171	301	853	3,052	63,290

* Not known, being Bonds "to bearer".

NUMERICAL RETURN of CASUALTIES, whether by Death, Resignation and Discharge, or Dismissal, among the European

Railways.	General Administration, including Agency, Audit, Account, Paymaster's, Stores, Medical, Barrack, Printing, Stationery, and Police Establishments.										Traffic and Telegraph Departments.										Engineer's				
	Europeans.					East Indians.					Europeans.					East Indians.					Europeans.				
	Average Number employed.	Number of Casualties by				Average Number employed.	Number of Casualties by				Average Number employed.	Number of Casualties by				Average Number employed.	Number of Casualties by				Average Number employed.	Number of Casualties by			
		Death.	Resignation and Discharge.	Dismissal.	Total.		Death.	Resignation and Discharge.	Dismissal.	Total.		Death.	Resignation and Discharge.	Dismissal.	Total.		Death.	Resignation and Discharge.	Dismissal.	Total.		Death.	Resignation and Discharge.	Dismissal.	Total.
Government of India:																									
East Indian	60	—	1	—	1	46	—	4	3	7	316	8	50	23	81	241	2	46	22	70	87	—	6	1	7
Eastern Bengal (including Damukdia Branch).	14½	—	1	—	1	¾	—	—	—	—	57⅝	1	19	7	27	33¼	—	10	8	18	14½	—	2	—	2
Eastern Bengal Steamboat Establishment.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Oudh and Rohilkund	30	—	3	—	3	28	1	2	—	3	59	1	13	12	26	18	—	5	6	11	23	1	—	—	1
Punjab and Delhi																									
Sind	55⅔	2	9	—	11	16¾	—	5	—	5	146	2	27	44	73	164	3	22	14	39	42½	—	14	1	15
Indus Steam Flotilla																									
Government of Madras:																									
Madras	17	—	—	—	—	49⅝	—	4	1	5	54½	—	14	1	15	410½	1	40	7	54	24½	1	—	—	1
South Indian	9	—	—	—	—	28	1	6	3	10	1⅞	—	—	—	—	60	—	11	20	31	25½	1	1	—	2
Government of Bombay:																									
Great Indian Peninsula	35	2	4	—	6	28	—	5	—	5	353	6	62	12	80	223	5	50	12	67	68	—	4	3	7
Bombay, Baroda and Central India.*	14	—	1	—	1	28	—	1	—	1	15	—	—	—	—	37	—	13	—	13	20	1	2	—	3
Holkar and Sindia-Neemuch	16½	1	—	—	1	2½	—	—	—	—	23	—	6	2	8	24	1	5	2	8	6½	—	2	—	2
Dhond and Manmad	12	—	1	1	2	3	—	2	—	2	6	—	4	—	4	7	—	1	—	1	3	—	—	1	1
Government of Bengal:																									
Calcutta and South-Eastern	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nalhati	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tirhut	6	—	—	—	—	3	—	—	—	—	3	—	1	—	1	11	—	2	1	3	1	—	—	—	—
„ Steamboat Establishment.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Northern Bengal	12	—	1	—	1	3	—	1	—	1	6	—	2	7	9	11	—	9	10	19	15	—	1	—	1
Patna-Gya	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	11	—	5	1	6	5	—	—	—	—
Government of North-Western Provinces and Oudh:																									
Muttra-Hathras	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1
Central Provinces:																									
Wardha Coal	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—
British Burmah:																									
Rangoon and Irrawaddy Valley.	10	—	3	—	3	26	—	4	—	4	15	—	3	2	5	76	1	18	16	35	10	—	3	—	3
Hyderabad:																									
Khamgaon	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amraoti	2	—	—	—	—	—	—	—	—	—	1	—	1	—	1	1	—	1	—	1	—	—	—	—	—
Nizam's	6	—	—	1	1	12	1	1	1	3	5	—	—	—	—	30	—	—	1	1	7	—	4	—	4
Director General of Railways:																									
Rajputana	21	—	1	1		18	—	3	1	4	29	1	5	6	12	44	—	8	6	14	19½	1	1	—	2
Sindia																									
Punjab Northern	5½	—	—	—	—	—	—	—	—	—	14	3	3	4	15	14½	—	9	10	19	4½	—	—	—	—
Indus Valley	28	—	14	1	15	10	—	4	1	5	38	1	14	15	30	43	—	8	23	31	60	1	6	3	10
Total Indian Railways	386⅔	5	39	4	48	308¾	3	42	10	55	1,144½	23	220	135	387	1,468½	13	269	159	441	436¾	6	47	9	62

* Includes Dabhoi Railway.

and East Indian Employés on the Railways open for Traffic in India during the Year ended 30th September 1879.

Department.	Locomotive and Carriage and Wagon Departments, including Steamboat Establishment.												Total.													
	East Indians.					Europeans.					East Indians.					Europeans.					East Indians.					
	Average Number employed.	Number of Casualties by				Average Number employed.	Number of Casualties by				Average Number employed.	Number of Casualties by				Average Number employed.	Number of Casualties by				Average Number employed.	Number of Casualties by				Mean Mileage Open.	Railways.
		Death.	Resignation and Discharge.	Dismissal.	Total.		Death.	Resignation and Discharge.	Dismissal.	Total.		Death.	Resignation and Discharge.	Dismissal.	Total.		Death.	Resignation and Discharge.	Dismissal.	Total.		Death.	Resignation and Discharge.	Dismissal.	Total.		
																										Government of India:
34	—	1	1	2	495	7	47	42	96	233	5	25	10	40	967	15	104	66	185	554	7	76	36	119	1,504	East Indian.
2½	—	1	—	1	48 1/12	1	8	4	13	39⅓	—	4	1	5	134 3/10	2	30	11	43	75¼	—	15	9	24	168½	Eastern Bengal (including Dumukdia Branch).
—	—	—	—	—	14⅓	—	3	3	6	2⅓	1	—	3	4	14⅓	—	3	3	6	2¼	1	—	3	4	—	Eastern Bengal Steamboat Establishment.
7	—	2	—	2	74	1	22	15	38	31	—	1	6	7	186	3	38	27	68	84	1	10	12	23	646¾	Oudh and Rohilkund.
10¾	—	10	—	10	188	6	115	17	138	90¼	2	50	4	56	451 9/10	10	165	62	237	281 1/10	5	87	18	110	682¼	Punjab and Delhi. Sind. Indus Steam Flotilla.
																										Government of Madras:
98¼	—	22	8	30	135	3	6	4	13	411	1	151	13	165	231½	4	20	5	29	975	2	223	29	254	857½	Madras.
493	1	8	5	14	66 1/12	—	8	6	14	214½	2	10	23	35	102 2/5	1	9	6	16	351¼	4	35	51	90	612½	South Indian.
																										Government of Bombay:
23	1	1	1	3	445	7	55	27	89	192	1	66	10	77	901	15	125	42	182	466	7	122	23	152	1,283½	Great Indian Peninsula.
3	—	1	—	1	67	1	9	2	12	144	1	31	4	36	119	2	14	2	18	212	1	46	4	51	469	Bombay, Baroda and Central India.*
5	—	—	—	—	31	2	8	⅘	14	9	—	3	1	4	78 4/5	3	14	6	23	40¾	1	8	3	12	171	Holkar and Sindia-Neemuch.
2	—	—	—	—	17	1	8	4	13	8	—	2	—	2	38	1	13	6	20	25	—	5	—	5	122½	Dhond and Manmad.
																										Government of Bengal:
1	—	—	—	—	1	—	—	—	—	2	—	—	—	—	2	—	—	—	—	3	—	—	—	—	28	Calcutta and South-Eastern.
—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	27¾	Nalhati.
1	—	—	—	—	6	1	1	—	2	3	—	2	1	3	15	1	2	—	3	18	—	4	2	6	78¼	Tirhut.
—	—	—	—	—	1	—	1	—	1	1	—	1	—	1	1	—	1	—	1	1	—	1	—	1	—	„ Steamboat Establishment.
7	—	8	—	8	41	—	11	3	14	31	—	12	2	14	74	—	15	10	25	52	—	30	12	42	222½	Northern Bengal.
—	—	—	—	—	6	—	—	—	—	1	—	—	—	—	13	—	—	—	—	12	—	5	1	6	59¼	Patna-Gya.
																										Government of North-Western Provinces and Oudh:
	—	—	—	—	1	—	—	—	—	—	—	—	—	—	4	—	1	—	1	1	—	—	—	—	29	Muttra-Hathras.
																										Central Provinces:
	—	—	—	—	3	—	—	—	—	1	—	—	—	—	5	—	—	—	—	5	—	—	—	—	45	Wardha Coal.
																										British Burmah:
	1	4	2	7	34	—	6	10	16	35	—	9	6	15	69	—	15	12	27	140	2	35	24	61	161	Rangoon and Irrawaddy Valley.
																										Hyderabad:
	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	8	Khamgaon.
	—	—	—	—	1	—	—	—	—	—	—	—	—	—	4	—	1	—	1	1	—	1	—	1	6	Amraoti.
	—	—	—	—	14	—	1	8	9	16	—	5	2	7	32	—	5	9	14	59	1	6	4	11	121	Nizam's.
																										Director General of Railways:
	—	—	—	—	119†	1	14	17	32	77‡	—	11	6	17	188½	3	21	24	48	142	—	22	13	35	466½	Rajputana. Sindia.
	—	—	—	—	24	2	8	4	14	3	—	2	—	2	48	5	16	8	29	17	—	11	10	21	103	Punjab Northern.
	—	3	1	4	112	—	11	22	33	26	—	3	12	15	238	2	45	41	88	93	—	18	37	55	501½	Indus Valley.
3	61	18	82	1,947 29/30	33	342	192	567	1,571⅓	13	388	104	505	3,894⅔	67	657	340	1,064	3,622 29/30	32	760	291	1,083	8,230½	Total Indian Railways.

* Includes Dabhoi Railway. † Includes four West Indians and Africans. ‡ Includes four Parsees.

NUMERICAL RETURN of all Races employed on open Lines of Railway and on the River Steamer Services on the 30th September 1879.

Railways.	General Administration, including Agency, Audit, Account, Paymasters, Stores, Medical, Barrack, Printing, Stationery, and Police Establishment.				Traffic and Telegraph Departments.				Engineer's Department.				Locomotive and Carriage and Wagon Departments, including Steamboat Establishment.				Total.				Number of Miles Open.	Number of Stations.
	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.	Europeans.	East Indians.	Natives.	Total.		
Government of India:																						
East Indian	60	45	3,302	3,506	305	217	9,091	9,613	86	40	15,126	15,252	488	229	10,949	11,666	948	531	38,553	40,037	(*h*) 1,507½	156
Eastern Bengal (including Damukdia Branch)	14	1	738	753	58	32	2,668	2,758	13	2	(*k*) 1,676	1,691	54	42	1,647	1,743	139	77	6,629	6,845	(*l*) 171½	36
" Steamboat Establishment	—	—	—	—	—	—	—	—	—	—	—	—	23	1	499	523	23	1	499	523	—	—
Oudh and Rohilkund	33	26	668	727	50	14	1,292	1,356	23	7	3,209	3,239	68	32	2,614	2,714	174	79	7,783	8,036	547	82
Punjab and Delhi	57	24	1,212	1,293	150	110	2,789	3,029	52	9	6,004	6,065	194	84	3,992	4,270	433	227	13,997	14,657	663	77
Sind																						
Indus Steam Flotilla																						
Government of Madras:																						
Madras	18	30	501	549	55	470	2,087	2,561	23	86	4,410	4,519	139	417	2,044	3,500	235	972	9,922	11,129	357	100
South Indian	9	26	281	316	18	69	1,475	1,553	21	52	3,005	3,078	56	213	1,688	1,957	104	351	6,449	6,904	617	94
Government of Bombay:																						
Great Indian Peninsula	35	27	1,224	1,286	331	248	4,501	5,080	68	21	14,423	14,512	423	173	7,856	8,452	857	469	28,004	29,330	1,268	157
Bombay, Baroda and Central India	14	28	703	745	16	32	1,764	1,812	20	3	2,274	2,297	66	146	1,468	1,680	116	209	6,209	6,534	(*m*) 474½	81
Holkar and Sindia-Neemuch	16	3	169	188	21	26	309	356	6	5	648	659	32	9	803	844	75	43	1,929	2,047	171	21
Dhond and Manmad	12	8	125	145	6	7	182	195	3	2	855	860	12	8	147	167	33	25	1,309	1,367	86	19
Government of Bengal:																						
Calcutta and South-Eastern	1	—	25	26	—	—	57	57	—	1	102	103	1	2	54	57	2	3	238	243	28	9
Nalhati	—	—	3	3	—	—	35	35	—	—	70	70	2	—	64	66	2	—	172	174	27½	7
Tirhut	5	3	75	83	3	11	268	272	1	1	360	362	6	3	231	240	15	18	924	957	75	12
" Steamboat Establishment	—	—	—	—	—	—	—	—	—	—	—	—	1	1	59	61	1	1	59	61	—	—
Northern Bengal	12	3	250	265	8	9	1,294	1,311	15	3	1,647	1,665	27	17	345	389	62	32	3,536	3,630	229½	30
Patna-Gya	—	—	11	11	2	11	137	150	5	—	567	572	6	1	74	81	13	12	789	814	57	8
Government of North-Western Provinces and Oudh:																						
Muttra-Hathras*	(*d*) 2	—	15	17	(*d*) —	—	25	25	(*d*) —	1	48	49	1	—	43	44	3	1	131	135	29	5
Cenera Provinces:																						
Wardha Coal†	2	—	16	18	—	3	71	74	—	1	215	216	3	1	36	40	5	5	338	348	45	4
British Burmah:																						
Rangoon and Irrawaddy Valley	8	27	86	121	13	56	221	290	6	10	676	692	15	23	293	331	42	116	1,276	1,434	161	18
Resident, Hyderabad:																						
Khamgaon	—	1	7	8	—	—	15	15	—	—	26	26	1	—	1	2	1	1	49	51	8	1
Amraoti	2	—	7	9	1	1	18	18	—	—	15	15	1	—	7	8	4	1	45	50	6	1
Nizam's	6	10	139	155	5	30	162	197	3	1	668	672	14	16	282	312	28	57	1,251	1,336	121	11
Director General of Railways:																						
Rajputana	20	19	512	551	28	42	894	964	19	3	1,949	1,971	(*b*) 119	(*c*) 77	2,268	2,464	186	141	5,623	5,950	481½	58
Sindia																						
Punjab Northern	9	—	56	(*a*) 65	19	14	183	216	6	—	391	397	29	5	612	646	63	19	1,242	1,324	103	13
Indus Valley	22	9	250	281	36	43	833	912	45	13	2,187	2,245	114	25	(*e*) 1,227	1,366	217	90	4,497	4,804	(*f*) 508½	(*g*) 48
Total Indian Railways	366	310	10,445	11,121	1,105	1,385	30,359	32,849	415	261	60,451	61,127	1,895	1,525	40,203	43,623	3,781	3,481	141,458	148,720	8,242½	1,048

* The staff on the Hathras Junction Station, which is worked by the East Indian Railway, is not included in this return.

† The working of the line was taken over by the State from the Great Indian Peninsula Railway from 1st January 1879.

(*a*) Not including Stores Department, which is under the orders of the Engineer-in-Chief, nor Police, which is under the control of the Assistant Inspector General of Police.
(*b*) Includes 4 West Indians and Africans.
(*c*) Includes 4 Parsees.
(*d*) The Executive Engineer is in general charge of the line, and Branch Auditor does the duties of Traffic Inspector.
(*e*) Includes workshop labourers.
(*f*) Inclusive of the portion of the Sind, Punjab, and Delhi Railway between Mooltan Cantonment and Muzaffarabad (7 miles).
(*g*) Exclusive of Arazi and Mahotafiag station.
(*h*) Includes 3 miles of the Barh Branch, Tirhut State Railway.
(*k*) Of these 220 are extra men employed on miscellaneous works, and 12 are contractors.
(*l*) Includes 13 miles of the Damukdia Branch, Northern Bengal State Railway.
(*m*) Inclusive of 30½ miles of the Dabhoi Railway.

PERSONS EMPLOYED.

Numbers employed.

34. The tables on the foregoing pages furnish detailed information regarding the numbers and races employed in the various departments of the different railways in India on the 30th September 1879. The number of miles to which the second of these returns applies was 8,242½, and the number of stations 1,048, compared with 7,671½ miles and 953 stations in the previous year. The total number of persons employed has increased by 6,521, namely, from 142,199 to 148,720. The Europeans have increased from 3,485 to 3,781; the Natives from 135,298 to 141,458; but the East Indians have diminished from 3,485 to 3,481. The increase is pretty evenly distributed over the different departments. It will be seen that by far the greater proportion of those employed are Natives. In 1878, the proportion was 95·15, and last year it was just about the same, namely, 95·12. The proportion of Europeans in the two years was 2·54 in 1879 compared with 2·45 in 1878, and of East Indians 2·34 compared with 2·40.

Proportion of Europeans, East Indians, and Natives.

35. The increased employment of Natives in situations for which it was at first thought they would be unsuited still continues. Both in northern and southern India the number of engine drivers is larger. The Locomotive Superintendent on the Oudh and Rohilkund Line reports, that "the Native drivers have increased from 17 to 23, "and Native shunters from 23 to 32, and it is hoped the numbers of Native drivers "will soon be still further augmented. The entire goods traffic between Lucknow and "Shahjehanpore has been worked with Native drivers and firemen without an "accident, and very few cases of misconduct have been reported." The employment of Native drivers on the passenger trains between Moradabad and Chandausi on the same line is also being tried.

Casualties.

36. There has been a great improvement in the death-rate among the Europeans and East Indians. In 1878, the death-rate was 24·49 and 16·73 per 1,000 Europeans and Natives respectively. Last year these proportions were reduced to 17·20 and 8·83; the actual number of deaths being 67 Europeans and 32 East Indians. Besides casualties by death, 657 Europeans and 760 East Indians resigned or were discharged, and 340 Europeans and 291 East Indians were dismissed. The returns do not extend, so far as regards casualties, to Natives.

Education of the European and Eurasian children.

37. The important object of providing the means of a suitable education for the children of the Eurasians and European mechanics employed on the railways continues to engage the attention of Government. The principles on which the Government are prepared to act with regard to all such children in India, are explained in the following extract from a Minute by the late Viceroy, Lord Lytton, dated March 1879:—

"Elementary schools for boys and girls up to the age of 12 or 14 should be provided at all places where the want for them exists. I understand that at nearly all the larger stations in the North-Western Provinces and Punjab the means of giving elementary education to European and Eurasian children are already sufficient, or can without much difficulty be made so. In the smaller stations means of education should be provided, as far as possible, by grants in aid to existing institutions or otherwise.

"The elementary schools will usually be day schools for children living with their parents in the plains; but it may sometimes be necessary to provide board as well as education for orphans and children altogether destitute, in orphanages or otherwise.

"The payment of fees should always be insisted on, except in the case of destitute children, or when the parents are altogether unable to pay. The manner in which the amount of the fees should be regulated will require careful consideration.

"Industrial schools for boys between the ages of about 12 and 18 should be established at convenient places, in connection with Government or railway workshops, or other institutions where mechanical and industrial arts are practised. It may often be necessary to provide accommodation for boarders at these schools.

"All possible efforts should be made to apprentice these boys to trades and industrial employments. In connection with this part of the subject, I desire to draw particular attention to the existing law, contained in Act XIX. of 1850. I believe it has been, so far at least as the Government is concerned, almost a dead letter; but the powers it gives to officers of Government to bind as apprentices poor children abandoned or neglected by their parents, or brought up by public charity, are very extensive. I observe that the question of establishing technical and industrial schools in the hills, for the children of railway employés, was lately brought before the Railway Conference at Calcutta by Sir Andrew Clarke. I am sure that my honourable colleague will be most willing and anxious to give every assistance in his power in regard to this very important part of the subject.

"Boarding schools should be established in the hills, where the children of poor Europeans, not intended for military service, can obtain an education suited to their position in life at the smallest possible cost. The relation between such schools and the schools in the plains, already referred to, and the conditions and circumstances under which children should be sent to them, are questions requiring careful consideration.

"The system of education given in the Lawrence Military Asylums should be reformed on the principles laid down by the Commission of 1872. The possibility of utilizing these schools for other classes, in addition to those for whom they were originally founded, should be considered.

"The schools for girls of the class in question need be elementary only; and the principles on which they should be established, whether in the plains or hills, should be generally similar to those applicable to the schools for boys. Special care is necessary, so that the education given to their girls may be suitable to their station in life. In this respect the education given at Indian girls' schools is often, I fear, very defective. The daughters of poor Europeans and Eurasians of the humblest classes are frequently taught so-called accomplishments which are worse than useless to them. They learn little or nothing that will be of practical value in after-life, and are allowed to grow up in the belief that it is degrading to undertake occupation, such as domestic or other service, by which they can earn their own livelihood."

38. Lord Lytton concludes by stating that he has commissioned Sir John Strachey, Sir Edwin Johnson, Sir George Couper, and Mr. (now Sir Robert) Egerton to prepare a joint "scheme for dealing in as complete and practical a way as possible with the "whole subject, so far as the Northern Provinces of the Bengal Presidency are "concerned," and thinks that, if a really satisfactory scheme for the North-Western Provinces, Oudh, and the Punjab can be brought into operation, not only will a most useful and important work in itself be accomplished, but that the example will soon be followed in the other provinces of India, where similar measures are as urgently, and in some cases, perhaps, more urgently required.

Scheme by East Indian Railway Company for establishing Hill schools.

39. In the meanwhile, the East Indian Railway Board have submitted, for the consideration of Government, a scheme for providing education on the hills for the children of their own staff, the balances standing to the credit of the Savings' Bank fund and the Fine fund of the Company being applied to meet the necessary expenses. This is not proposed "in the eleemosynary sense of relieving parents from any part "of their moral and social duties," or with the intention of holding out any expectation that the education to be given to the children "should be directed to higher objects than would be required to enable them "to fill the same position in life as that "occupied by their parents," but to assist the parents in obtaining "access to educa- "tion and moral training suitable for their children in a climate less inimical and trying "than the neighbourhood of the hot and crowded stations on the plains."

40. The Great Indian Peninsula Railway Company have also authorised measures to be taken for supplying school accommodation for the children of their servants at suitable places; and, proceeding upon the same principle as that advocated by the East Indian Railway Board have expressed their readiness to help the parents to educate their children so as to fit them for duties which will enable them to gain their livelihood in India. That the parents are favourable to a plan of establishing Hill Schools where the children could be educated and boarded at a moderate expense was ascertained by the replies to his inquiries which the Agent of the Company received from them.

Mussoorie Hill School for Sind, Punjab and Delhi Railway Company's children.

41. The Hill School at Mussoorie, which has been referred to in former Reports, continues to receive the children of the subordinate members of the Sind, Punjab and Delhi Railway Company. Twenty-five boarders and two teachers can be accommodated. Mrs. Ross, the superintendent, states that with an additional outlay of Rs. 1,000 twenty-five more might be received, and that the cost per mensem of each child has been Rs. 10. 2. She speaks highly of the healthiness of the place, and reports that there has been no case of illness.

Darjeeling School for Eastern Bengal and Northern Bengal Railways.

42. It is also proposed to open a school at Kurseong, near Darjeeling, where the children from the Eastern Bengal and Northern Bengal Railways may be educated. Suitable contributions towards the expenses of their board and schooling, which are estimated at Rs. 20 per mensem, will be made from the revenues of these Railways.

43. The following is the number of European and Eurasian children respectively

belonging to employés of the Indian Guaranteed Railway Companies, so far as can be ascertained:—

Railway Company.	Europeans.	Eurasians.	Total.
Bombay, Baroda and Central India	—	—	229
Eastern Bengal*	79	43	122
East Indian	982	807	1,789
Great Indian Peninsula	596	332	928
Madras	167	746	913
Oudh and Rohilkund	—	—	294
Sind, Punjab and Delhi†	—	—	472
South Indian	45	260	305
Total			5,052

* No return from India since 1877. † No return from India since 1878.

Railway Volunteers.

44. The Railway Volunteer Corps continue to maintain their efficiency both as regards members, attendance, and soldierly bearing. They afford satisfactory proof that, in case of necessity, they would perform very useful service; and in the meanwhile a useful occupation and healthy training is provided for the men.

Corps in Bengal, in Bombay, in Madras.

45. According to the last accounts, the East Indian Railway Corps mustered 863 men, spread over 12 various stations of the line. Of these, 663 were "effective," and 200 have obtained certificates of efficiency. In Bombay, the Great Indian Peninsula Railway Corps numbers 963, of which 813 are efficient, and 527 have obtained certificates of "extra efficiency." The Bombay, Baroda and Central India Railway Corps numbers 168, about 135 of whom are efficient. Hopes are entertained that this corps will be soon increased. In Madras, volunteer guards are formed at the Presidency town, not exclusively, but principally from railway officers and men, and muster about 250 strong. All these corps have been inspected by officers appointed by Government for the purpose, and the reports in each case were satisfactory and encouraging.

ACCIDENTS.

Madras Line.

46. The most serious accident during the year occurred in October last on the Madras line, in consequence of a slip in a portion of the embankment between Chinnamapett and Arconum. A passenger train passed over the spot shortly after the subsidence had taken place. The rails, which had necessarily been displaced, were tossed about in all directions, and one impaled a carriage near the head of the train. The result was that the vehicles in the hinder part were piled one upon the other, and the inmates, many of whom belonged to a detachment of the Queen's Own Sappers and Miners *en route* for Burmah, were crushed. 22 passengers were killed, and 46 were injured. The embankment which failed was one which had been added to the original line in order to receive a second line of rails, and soil was used which yielded to heavy rain and slipped away. The danger had not been sufficiently estimated by the engineers in charge.

Rajputana.

47. Another serious accident occurred on the Rajputana Railway in July, from a similar cause. A portion of an embankment near the Bandiqui station was carried away by the floods of a small stream, and a passenger train ran into the gap. Eight Native passengers and the guard were killed.

Great Indian Peninsula.

48. In January there was a collision on the Great Indian Peninsula Railway at Bhandup, between a troop train and a goods train, when one passenger and five railway servants were severely injured; three of the latter so seriously that they died afterwards.

49. Upon the whole, it has been a bad year for accidents. The total number of passengers killed was 48 compared with 23 of the previous year, and of injured 136 compared with 52. Of the former, 30 during the last year and 5 during the previous year lost their lives from causes beyond their control. In the Appendix (No. 3) will be found rules and directions which have been issued by the Government of India for the guidance of railway officers on the occurrence of accidents.

50. The casualties amongst railway servants have, as usual, been considerable. The numbers who have lost their lives and been injured from causes beyond their control are 26 and 128 respectively, compared with 22 and 63 of the year 1878. Those who have been killed and injured from their own incaution or misconduct number 118 and 318, compared with 121 and 210 respectively.

51. The nature of the accidents, the lines on which they happened, and the causes will be found tabulated in the following statements:—

Accidents to Persons during the Year 1879 (Companies' Classification).

Railway.	Passengers Killed or Injured from Causes beyond their control.		Passengers Killed or Injured from their own Misconduct or Incaution.		Railway Servants Killed or Injured from Causes beyond their control.		Railway Servants Killed or Injured from their own Misconduct or Incaution.		Persons Killed or Injured at Level Crossings.		Trespassers.		Miscellaneous.		Total Persons of all Classes.		Total Killed and Injured.
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	
Guaranteed.																	
Bombay, Baroda and Central India.	—	—	—	3	3	7	7	9	3	—	3	—	1	—	17	19	36
Eastern Bengal	—	—	1	1	1	3	6	15	1	—	6	2	—	—	15	21	36
East Indian, Main Line	—	3	5	25	1	8	21	40	2	—	37	13	5	6	71	95	166
" " Jabalpur Line	—	—	2	3	—	—	3	7	—	—	5	1	—	2	10	13	23
Great Indian Peninsula	—	2	—	4	7	20	35	108	1	—	13	8	12	1	68	143	211
Madras	22	46	1	3	—	4	2	18	—	—	5	1	—	—	30	72	102
Oudh and Rohilkund	—	3	—	6	2	16	1	9	2	1	9	—	6	—	20	35	55
Sind, Punjab and Delhi	—	1	6	6	3	6	18	48	1	—	8	2	—	—	36	63	99
South Indian	—	—	—	1	—	21	4	16	—	—	4	—	—	—	8	38	46
State.																	
Calcutta and South-Eastern	—	—	—	—	—	—	—	—	—	—	2	—	—	—	2	—	2
Dhond and Manmad	—	—	—	—	—	2	1	3	—	—	1	1	1	—	3	6	9
Holkar and Sindia-Neemuch	—	—	—	1	—	3	1	—	—	—	—	—	—	1	1	5	6
Indus Valley	—	1	2	3	3	14	2	8	1	—	8	3	1	—	17	29	46
Muttra-Hathras	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Nil
Nalhati	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1
Northern Bengal	—	2	—	—	—	2	2	1	—	1	3	—	5	2	10	8	18
Patna-Gya	—	—	—	—	4	1	—	—	—	—	2	1	—	—	6	2	8
Punjab Northern	—	8	—	2	—	6	7	4	—	1	2	1	—	—	9	22	31
Rajputana	8	—	—	4	2	2	4	9	—	—	7	1	—	—	21	16	37
Rangoon and Irrawaddy Valley.	—	1	—	3	—	9	2	12	—	—	1	2	—	—	3	27	30
Sindia	—	—	—	—	—	2	—	5	—	—	2	3	—	—	2	10	12
Tirhut	—	—	1	—	—	—	1	1	—	—	—	—	—	—	2	1	3
Wardha Coal	—	—	—	—	—	2	—	1	—	—	—	—	—	—	—	3	3
Western Rajputana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Nil
Native States: Amraoti	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Nil
Native States: Khamgaon	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Nil
Native States: Nizam's	—	2	—	2	—	—	1	4	—	—	—	2	—	—	1	10	11
Totals	30	69	18	67	26	128	118	318	11	3	118	41	31	13	352	639	991

The following Tables shew (1) the Number of Accidents to Trains, Rolling Stock, Permanent Way, &c., distinguishing the different Classes of Accidents; and (2) the Number of Passengers, Railway Servants, and Other Persons reported as Killed or Injured, classifying (as far as practicable) the Nature and Causes of the Accidents occasioning the Death or Injury, during the Years 1878 and 1879 respectively, on Indian Railways (Government Classification).

TABLE I.

Year.	1878	1879
1. Collisions between Passenger Trains, or parts of Passenger Trains.	4	10
2. Collisions between Passenger Trains and Goods, or Mineral Trains, Engines, and Vehicles standing (not) of the Line.	62	69
3. Collisions between Goods Trains, or parts of Goods Trains.	107	68
4. Collisions between Light Engines.	24	15
5. Passenger Trains, or parts of Passenger Trains, leaving the rails.	91	86
6. Goods Trains, or parts of Goods Trains, leaving the rails.	593	606
7. Trains or Engines travelling in the wrong direction through Points.	90	69
8. Trains running into Stations or Sidings at too high a Speed.	11	10
9. Trains running over Cattle on the Line.	832	671
10. Trains running over obstructions on the Line.	57	53
11. Trains running through Gates at Level Crossings.	58	40
12. The bursting of Boilers or Tubes, &c., of Engines.	36	27
13. The failure of Machinery, Springs, &c., of Engines.	207	99
14. The failure of Tyres.	8	8
15. The failure of Wheels.	25	7
16. The failure of Axles.	43	22
17. The failure of Brake Apparatus.	3	2
18. The failure of Couplings.	172	117
19. The failure of Tunnels, Bridges, Viaducts, or Culverts.	1	2
20. Broken Rails.	85	29
21. The Flooding of Portions of Permanent Way.	42	53
22. Slips in Cuttings or Embankments.	36	44
23. Fire in Trains.	310	307
24. Fire at Stations, or involving Injury to Bridges or Viaducts.	76	43
25. Other Accidents.	410	687
Total all Classes.	3,406	2,797

TABLE II.

| Passengers. | | |

CAPITAL.

52. The tables which follow shew that a total sum of 123,124,514*l.* had been expended on railways in India, up to latest dates to which the capital accounts had been made up, namely, to the 31st December 1879 as regards State lines, and to the 31st March 1880 as regards the guaranteed railways.

Of this sum there had been expended:

	£
On Guaranteed Lines (excluding the East Indian)	66,266,985
On the East Indian Railway (to 31st December 1879)	31,060,866
On State Lines	24,403,797
On Native State Lines	1,392,866
	£123,124,514

53. During the 14 months, extending from the 31st October 1878 (the date to which the accounts in the last Report were brought) to the 31st December 1879, a sum of 4,505,587*l.* was laid out on State lines; and 883,185*l.* was expended on guaranteed lines during the financial year ending the 31st March last. This includes a sum of 32,585*l.* expended on the East Indian Railway up to 31st December. It should, however, be noted that the outlay on State and Native State lines, as given above, is not correctly stated for comparison with the outlay on the Guaranteed lines, the conversion of the Indian expenditure on the former having been made at the 2*s.* rate. If the Indian expenditure in each year had been converted at the average rate of exchange, the sterling amounts above entered would be less by nearly 2½ millions.

54. The construction of railways under the guarantee system began in 1849, the State lines were commenced in 1870. The average annual expenditure spread over 30 years has accordingly been upwards of 4,000,000*l.*

East Indian Railway.

55. The East Indian Railway will in future years be taken out of the usual category of guaranteed railways, and even now the amount of capital expended on the line disappears from the statements given in the following pages. The old capital account of the Company was finally closed on the 31st December last, when the purchase of the undertaking by the Government was completed, and the stock (amounting to 26,200,000*l.* + 6,550,000*l.*) was converted into an annuity of 1,473,750*l.* for 73 years. It will be recollected that a fifth of this annuity, namely 294,750*l.*, was suspended under the new contract, for 50 years, subject to determination at the end of the first 20 years and every subsequent five years, and that the sum representing that portion, viz., 6,550,000*l.*, which was at once taken by those who were entitled to it, receives 4 per cent. interest out of the net receipts of the railway and a fifth of the profits besides, after the remaining four fifths of the annuity and the interest due on the debentures and debenture stock, as well as on any additional capital required, has been paid.

56. I may here mention that the option which was given to the annuity holders to exchange their annuity of 5*l.* 12*s.* 6*d.* for 125*l.* of 4 per cent. Government of India stock and rupee debt was taken advantage of to the extent of 5,115,938*l.* 15*s.* and Rs. 1,06,750 respectively, cancelling annuities of 230,217*l.* 4*s.* 11*d.* and 480*l.* 7*s.* 6*d.*

Value of stores in hand.

57. It was estimated that the value of stores in the hands of the various Companies on the 31st December 1878 was 3,700,000*l.* This was reduced during the year ending 31st December 1879 to 3,287,500*l.*

58. The amount raised by the Companies during the past financial year was 752,946*l.*, all of which (with the exception of 2,246*l.*, which was the result of calls upon shares) consisted of debentures at 4 per cent.

59. Excluding the stock of the East Indian Railway Company, for the reasons above given, the total amount of capital raised by the various guaranteed Railway Companies now amounts to 67,079,588*l.*, of which

£				
56,629,959	consists of	share capital raised at	5	per cent.
1,223,518	„	„ „	4¾	„
500,000	„	„ „	4½	„
4,751,450	„	debentures „	4	„
425,000	„	debenture stock „	4½	„
3,197,458	„	„ „	4	„
52,203*	„	capital not bearing interest.		

* The difference between the above figures and those given in Statement No. 2 is thus explained:—

Premium on share capital and debentures		£ 354,660
Discount on debenture stock:—		
Stock represented as shewn above	£3,922,458	
Cash received (per Statement No. 2)	3,629,878	
	292,580	
Discount on debentures:—		
Amount of debt shewn above	£4,751,450	
Cash received (per Statement No. 2)	4,741,573	
	9,877	
		302,457
		£52,203

STATEMENT No. 1.

STATEMENT of EXPENDITURE in ENGLAND and INDIA on INDIAN STATE RAILWAYS, appropriated to the various Undertakings, as shewn in Statements to 31st December 1879.

State Railways.	Expenditure Appropriated.			Classification of Expenditure.												
	England.	India.	Total.	Preliminary Expenses.	Land.	Construction of Line.	Ballast and Permanent Way.	Stations and Buildings.	Electric Telegraph.	Steam Ferries.	Plant.	Rolling Stock.	Establishment.	Contingencies.	Suspense Account.	Receipts on Capital Account, deducted.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Calcutta and South-Eastern	258,713	415,228	673,941	6,769	98,507	107,529	153,491	69,322	—	—	7,788	119,130	106,448	—	9,057	—
Nalhati	37,141	−2,511	34,630	—	—	2,169	18,225	2,560	—	—	750	5,000	3,000	—	2,226	—
Rajputana*	1,005,443	2,233,575	3,239,018	59,020	56,683	642,079	1,067,218	462,663	—	—	62,783	491,651	200,796	—	198,629	2,504
Sambhar Salt extension*	—	53,129	53,129	30	—	19,005	30,337	1,555	—	—	185	—	1,117	—	—	—
Western Rajputana	225,043	757,861	982,904	35,114	1,586	241,339	113,152	46,485	—	—	17,198	3,640	72,035	—	432,927	452
Holkar	341,468	877,981	1,219,449	21,699	5,680	583,268	220,176	113,128	—	—	29,651	114,714	133,106	—	1,415	4,068
Wardha Coal	55,955	433,863	489,818	9,164	466	157,433	204,963	34,837	—	—	15,641	14,152	44,449	—	9,533	680
Punjab Northern State Railway	698,994	2,561,054	3,258,048	84,966	40,622	1,117,163	570,474	130,950	—	—	144,756	139,775	442,938	—	206,276	9,848
Lalla Musa Salt branch	—	110,387	110,387	137	13	11,059	68,840	4,827	—	—	298	27,163	6,025	—	169	24
Indus Valley	1,383,171	4,748,282	6,081,453	127,063	23,698	2,126,035	1,619,917	376,932	—	335	155,509	619,022	673,846	—	368,456	9,800
Northern Bengal	521,951	1,515,128	2,037,079	12,637	76,289	544,435	362,156	107,097	—	12,648	69,442	217,577	222,293	—	127,479	4,974
Neemuch	376,121	927,011	1,303,132	74,119	998	345,009	255,706	72,025	—	—	24,722	96,630	140,908	—	196,640	4,773
Rangoon and Irrawaddy	233,336	1,005,824	1,238,660	5,650	17,722	283,429	421,399	173,433	—	—	36,064	166,335	104,353	—	30,919	623
Sindia*	141,506	589,976	731,482	26,486	2,052	388,857	198,998	57,168	—	—	2,674	9,540	47,068	—	1,088	2,488
Tirhut	173,353	560,499	733,852	920	15,299	81,945	197,817	43,229	13,484	—	20,042	56,068	57,393	—	20,118	428
Nagpore and Chattisgur	95,650	192,649	288,299	21,295	664	58,659	50,946	18,519	—	—	6,607	4,356	20,372	—	104,800	99
Dhond and Manmad	405,947	583,084	989,031	12,870	3,548	232,058	496,857	23,960	—	—	22,495	97,964	64,579	—	35,225	556
Patna and Gya	79,538	227,561	307,099	631	8,298	40,562	161,235	28,439	—	—	7,475	5,341	21,325	—	22,080	737
Cawnpore and Furrackabad	—	153,534	153,534	2,133	3,006	18,940	98,983	9,725	—	—	2,115	598	9,237	—	8,609	9
Bombay—Eastern Deccan	—	87,893	87,893	5,075	154	17,005	96	137	—	—	2,604	—	2,804	—	30	42
Ghazeepore and Dildarnuggur	—	34,538	34,538	224	268	5,709	4,038	549	—	—	76	—	2,917	—	19,772	5
Achnera and Muttra	—	5,317	5,317	39	696	3,603	—	—	—	—	—	—	839	—	—	—
Muttra and Hathras	—	109,146	109,146	96	1,536	3,475	52,977	12,100	—	—	768	25,132	7,312	—	5,673	10
Frontier State Railways:																
Rawulpindee—Peshawur	—	46,500	46,500	28,379	—	3,470	906	33	—	—	2,358	—	1,718	—	9,659	18
Ditto to Kohat	—	15,896	15,896	33	1,450	6,156	—	10	—	—	2,605	—	2,415	—	3,228	1
Peshawur to Jellalabad	—	1,022	1,022	103	—	—	—	—	—	—	—	—	—	—	919	—
Kandahar Railway*	1,206	315,970	317,176	1,758	208	4,829	163,379	1,048	—	—	1,064	15,232	1,917	—	127,780	36
Bellary and Kanwar	2,602	54,355	56,957	50,857	—	—	—	—	—	—	—	—	—	—	—	—
Hajipore Extension Survey	—	362	362	362	—	—	—	—	—	—	—	—	—	—	—	—
Jhingurporo „ „	—	241	241	241	—	—	—	—	—	—	—	—	—	—	—	—
Bettiah „ „	—	1,862	1,862	1,862	—	—	—	—	—	—	—	—	—	—	—	—
Palamow „ „	—	469	469	469	—	—	—	—	—	—	—	—	—	—	—	—
Moradabad Survey	—	1,895	1,895	1,895	—	—	—	—	—	—	—	—	—	—	—	—
Bhopal „	—	4,212	4,212	3,830	—	—	—	—	—	—	—	—	—	—	—	—
Amritsar and Pathankote Survey	—	2,677	2,677	2,593	—	—	—	—	—	—	—	—	—	—	—	—
Bareilly and Phillibhit „	—	3,028	3,028	3,028	—	—	—	—	—	—	—	—	—	—	382	—
Central Bengal Survey	—	12,164	12,164	12,178	—	—	—	—	—	—	—	—	—	—	94	—
Gonda „	—	2,626	2,626	2,620	—	—	—	—	—	—	—	—	—	—	—	—
Goruckpore „	—	4,252	4,252	4,246	—	—	—	—	—	—	—	—	—	—	—	14
Mau-ranipore „	—	7,305	7,305	7,305	—	—	—	—	—	—	—	—	—	—	6	—
Banda „	—	8,513	8,513	8,513	—	—	—	—	—	—	—	—	—	—	6	—
Jaunpore „	—	3,425	3,425	3,404	—	—	—	—	—	—	—	—	—	—	—	—
Lucknow „	—	4,176	4,176	4,161	—	—	—	—	—	—	—	—	—	—	—	—
Total £	5,983,328	18,420,109	24,403,797	670,038	354,530	7,358,230	6,836,506	1,905,291	13,484	12,983	635,755	2,228,959	2,391,258	—	21	—
															15	—
															2,035,091	39,022
NATIVE STATES.																
Nizam's	146,033	1,017,723	†1,163,761	14,233	—	404,383	470,613	125,470	—	—	16,850	20,130	109,582			
Khamgaon	—	53,562	53,562	37	111	11,046	27,890	1,938	—	—	343	3,250	3,072	—	3,650	7,020
Amraoti	13,203	34,496	47,704	1,140	245	9,528	24,124	4,459	—	—	592	1,000	2,950	—	1,220	24
Mysore	—	70,821	70,821	13,917	3,564	37,250	1,279	3,025	—	—	2,471	—	2,460	—	1,135	—
Katiawar	—	48,018	48,018	3,823	—	19,844	4,014	2,707	—	—	3,960	—	2,267	—	23,824	—
															4,676	659
Total £	159,236	1,223,620	1,382,866	32,500	3,920	476,551	533,500	140,170	—	—	23,926	29,380	144,009	—	5,158	65
															16,118	5,649

* Approximate figures for the month of December.

† Account rendered in Foreign currency and converted into British currency at 117 Halli Sicca rupees per 100 Government rupees.

Office of the Accountant General, Public Works Department,
Calcutta, 17th March 1880.

A. J. FILGATE, Major, R.E.,
Officiating Accountant General, Public Works Department.

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STATEMENT No. 2.

GUARANTEED RAILWAYS.

Shewing the AMOUNT of CAPITAL authorized to be raised for each Undertaking as now sanctioned, the Amount raised, and the Amount withdrawn, to 31st March 1880.

Railway.	Amount authorized to be raised on 31st March 1880.					Amount raised in England to 31st March 1880.						Amount raised in India to Date of last Advices.		Total Amount raised to 31st March 1880.	Total Amount withdrawn to 31st March 1880 (partly estimated).
	Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	Total.	Share Capital.	Debentures.		Debenture Stock.		Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.		
							Amount of Debentures.	Cash received.	Stock represented.	Cash received.					
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Bombay, Baroda and Central India	7,550,300	575,000	—	35,387	8,160,687	7,528,628	*575,000*	571,250	—	—	35,387	21,672	—	8,156,937	7,938,781
Eastern Bengal - - -	2,255,520	612,350	411,308	2,288	3,281,466	2,238,996	*612,350*	612,350	*411,308*	374,730	2,288	16,486	—	3,244,850	3,235,783
Great Indian Peninsula - -	20,000,000	928,800	3,065,300	229,602	24,223,702	19,503,103	*928,800*	927,673	*2,701,450*	2,475,559	228,860	496,897	742	23,632,834	23,493,099
Madras - - -	10,267,850	400,000	—	10,122	10,677,972	10,259,881	*400,000*	400,000	—	—	10,122	—	—	10,670,003	10,497,769
Oudh and Rohilkund - -	4,000,000	1,615,300	384,700	8,347	6,008,347	3,575,581	*1,615,300*	1,615,300	*384,700*	354,589	8,347	424,419	—	5,978,236	5,852,970
Sind, Punjab and Delhi - -	11,418,900	—	—	4,336	11,423,236	10,988,984	—	—	—	—	4,336	86,253	—	11,079,573	10,988,364
South Indian - - -	3,212,577	620,000	425,000	64,578	4,322,155	3,211,356	*620,000*	615,000	*425,000*	425,000	64,523	1,221	55	4,317,155	4,260,219
Total - -	58,705,147	4,751,450	4,286,308	354,660	68,097,565	57,306,529	*4,751,450*	4,741,573	*3,922,458*	3,629,878	353,863	1,046,948	797	67,079,588	66,266,985

India Office, 5th April 1880.

THOS. W. KEITH,
Accountant General.

STATEMENT No. 3.

GUARANTEED RAILWAYS.

SHEWING the AMOUNT received from and withdrawn by each Company during the Year ended 31st March 1880.

Railway.	Sums standing to the Credit of the Companies on the 31st March 1879.	Sums advanced to the Companies on the 31st March 1879.	Amount received						Amount withdrawn					Total received during the Year ended 31st March 1880.	Total withdrawn during the Year ended 31st March 1880.
			In England, between 1st April 1879 and 31st March 1880.				In India, between 1st April 1879 and the Date to which Accounts have been received.		In England, between 1st April 1879 and 31st March 1880.		In India.				
			Share Capital.	Debentures.	Debenture Stock.	Capital not bearing Interest.	Share Capital.	Capital not bearing Interest.	On account of Stores, Establishment Charges, &c.	For Discharge of Debentures.	Date to which Accounts have been received.	Amount.	Estimated Withdrawals between Dates specified and 31st March 1880.		
	£	£	£	£	£	£	£	£	£	£		£	£	£	£
Bombay, Baroda and Central India.	418,791	—	—	—	—	—	—	—	159,870	—	31st December 1879	40,765	—	—	200,635
Eastern Bengal -	—	111,979	—	150,000	—	—	—	—	51,853	—	,,	*2,595**	*20,000†*	150,000	28,955
Great Indian Peninsula.	—	106,332	1,478	314,200	—	—	—	—	400,656	—	,,	*131,045**	*200,000†*	315,678	69,611
Madras - -	81,664	—	768	66,500	—	—	—	—	71,969	—	,,	*35,471**	*60,000†*	67,268	*23,302*
Oudh and Rohilkund	274,771	—	—	—	—	—	—	—	105,593	—	,,	43,912	—	—	149,505
Sind, Punjab and Delhi.	404,280	—	—	—	—	—	—	—	213,630	—	,,	64,440	35,000	—	313,070
South Indian -	—	50,937	—	220,000	—	—	—	—	112,754	—	,,	14,372	*15,000†*	220,000	112,126
Total -	1,179,506	269,248	2,246	750,700	—	—	—	—	1,116,325	—	—	*3,725**	*260,000†*	752,946	850,600

* Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amounts withdrawn in India on Capital Account during the year.

† It is estimated that, on receipt of advices from India regarding transfers, which are several months in arrear of cash transactions, transfers of expenditure to Revenue Account, &c., will have exceeded the withdrawals to this extent.

India Office, 5th April 1880.

THOS. W. KEITH,
Accountant General.

MEMORANDUM shewing the AMOUNT received from and withdrawn by the EAST INDIAN RAILWAY COMPANY from 1st April to 31st December 1879, in the same form as Statement No. 3.

Railway.	Sum standing to the credit of the Company on the 31st March 1879.	Sum advanced to the Company on the 31st March 1879.	Amount received.	Amount withdrawn.				Total received from 1st April to 31st Dec. 1879.	Total withdrawn from 1st April to 31st Dec. 1879.
			In England between 1st April and 31st Dec. 1879.	In England between 1st April and 31st Dec. 1879.	In India.				
			Capital not bearing Interest.	On account of Stores, Establishment Charges, &c.	Date to which Accounts have been received.	Amount.	Estimated Transfers to Revenue Account, &c.		
East Indian :—	£	£	£	£	1879.	£	£	£	£
Main Line - -	8,268	—	30,143	183,607	31st Dec.	*70,488**	*100,000†*	30,143	13,119
Jabalpur Line -	—	189,146	2,150	—	,,	19,466	—	2,150	19,466
Total - -	8,268	189,146	32,293	183,607	—	*51,022**	*100,000†*	32,293	32,585

* Transfers of Expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amounts withdrawn in India on Capital Account.

† Transfers to Revenue Account, &c., have only been advised to the end of September 1879 ; this sum is estimated for October, November and December 1879.

STATEMENT of WITHDRAWALS out of CAPITAL for EXPENDITURE; shewing the Amount withdrawn in England and in India by all the Guaranteed Indian Railway Companies during each Financial Year from the commencement to 31st March 1880.

Year.	England.	India.	Total.
	£	£	£
1849–50 - - - -	69,211	6,682	75,893
1850–51 - - - -	61,164	38,099	99,263
1851–52 - - - -	154,212	197,111	351,323
1852–53 - - - -	174,920	252,640	427,560
1853–54 - - - -	252,484	418,165	670,649
1854–55 - - - -	960,878	769,278	1,730,156
1855–56 - - - -	1,935,074	1,431,337	3,366,411
1856–57 - - - -	1,752,813	1,762,287	3,515,100
1857–58 - - - -	1,328,243	2,094,825	3,423,068
1858–59 - - - -	1,941,033	3,551,075	5,492,108
1859–60 - - - -	2,508,668	4,662,796	7,171,464
1860–61 - - - -	2,388,315	5,190,400	7,578,715
1861–62 - - - -	1,597,430	5,004,782	6,602,212
1862–63 - - - -	1,852,393	4,010,951	5,863,344
1863–64 - - - -	1,415,146	3,340,507	4,755,653
1864–65 - - - -	1,396,821	2,725,419	4,122,240
1865–66 - - - -	2,222,679	3,414,187	5,636,866
1866–67 - - - -	3,958,357	3,339,346	7,297,703
1867–68 - - - -	3,924,490	3,195,591	7,120,081
1868–69 - - - -	1,702,452	2,165,475	3,867,927
1869–70 - - - -	2,298,680	2,444,171	4,742,851
1870–71 - - - -	1,899,054	1,877,216	3,776,270
1871–72 - - - -	886,996	1,609,732	2,496,728
1872–73 - - - -	822,995	*345,750**	477,245
1873–74 - - - -	1,028,032	*334,979**	693,053
1874–75 - - - -	1,174,893	*86,982**	1,087,911
1875–76 - - - -	1,151,585	*200,779**	950,806
1876–77 - - - -	1,222,846	*507,387**	715,459
1877–78 - - - -	1,793,662	*469,678**	1,323,984
1878–79 - - - -	1,786,235	*773,612**	1,012,623
Total expenditure to end of 1878–79, as shewn in the Indian Finance and Revenue Accounts - - -	45,661,761	50,782,905	96,444,666
Deduct. Withdrawals by East Indian Railway Company to 1878–79, inclusive - - - -	12,100,140	18,928,141	31,028,281
	33,561,621	31,854,764	65,416,385
1879–80 (partly estimated) - - - -	1,116,325	*265,725**	850,600
Total - - - -	£34,677,946	31,589,039	66,266,985

* Transfers of expenditure to Revenue Account, Sale proceeds of Stores, Refunds, &c., exceed by these sums the amount withdrawn in India on Capital Account.

India Office, 5th April 1880.

THOS. W. KEITH, Accountant General.

STATE of DEBENTURE LOANS on the 31st March 1880.

Railway.	Amount.		Rate of Interest	Date at which Loan expires.
	£	£		
Bombay, Baroda and Central India	200,000		4	1st January 1882.
" " " -	375,000		4	1st August 1884.
		575,000		
Eastern Bengal - - -	150,000		4	19th May 1884.
" - - -	52,650		4	1st November 1884.
" - - -	409,700		4	12th July 1886.
		612,350		
Great Indian Peninsula - -	320,500		4	1st January 1884.
" " " - -	568,800		4	1st July 1885.
" " " - -	39,500		4	1st January 1886.
		928,800		
Madras - - -	200,000		4	30th June 1882.
" - - - -	200,000		4	31st December 1883.
		400,000		
Oudh and Rohilkund - -	615,300		4	4th June 1880.*
" " - -	500,000		4	1st August 1881.
" " - -	200,000		4	16th August 1884.
" " - -	300,000		4	1st May 1885.
		1,615,300		
South Indian - - -	620,000		4	1st July 1884.
		620,000		
		£4,751,450		
East Indian - - -	1,000,000		4¼	1st January 1881.
" - - -	1,279,850		4	12th July 1882.
" - - -	230,150		4	1st December 1883.
" - - -	440,000		4	19th March 1883.
		£3,950,000		

* The renewal of these Debentures for a further term of seven years has been sanctioned.

India Office, 5th April 1880. THOS. W. KEITH, Accountant General.

REVENUE.

60. The net revenue derived from the guaranteed railways during the year 1879 was 5,062,188*l.*, compared with 5,002,028*l.* of the previous year. The guaranteed interest in respect of the past year amounted to 4,748,233*l.*, leaving a net surplus of 313,955*l.*, after deducting the deficiencies of those lines which failed to cover the guarantee. The East Indian and the Eastern Bengal earned surplus profits to the extent of 1,239,413*l.* on the year's working. A sum of 53,105*l.* was paid over by the Bombay, Baroda and Central India Railway Company as the surplus profits of the half year ending in June towards the expenses of the new Nerbudda bridge, and a sum of 6,000*l.* was paid out of the surplus profits of the Eastern Bengal Railway towards the cost of relaying rails.

61. The net receipts of the State lines amounted to 310,408*l.*, as compared with 200,374*l.* of the previous year.

62. The whole railway revenue of the year thus reached the sum of 5,372,596*l.*

63. The gross receipts of the guaranteed lines were 9,765,284*l.*, and the expenses 4,703,096*l.* On the State lines the gross receipts were 1,465,824*l.*, and the expenses 1,155,416*l.* The average proportion of expenditure to gross receipts on the guaranteed lines was 49 per cent; on the State lines 78 per cent.

64. Taking the whole railway system together, as open on the 31st December 1879, a revenue at the rate of about 4*l.* 7*s.* per cent. per annum has been earned on an outlay of 123,000,000*l.*

65. The guaranteed lines earned at the rate of about 5*l.* 4*s.* and the State lines at the rate of about 1*l.* 3*s.* per cent. per annum.

66. In my last report it was stated, with reference to the advances in sterling which the Government are in the habit of making to the Companies in this country for

expenditure on Revenue account, that in future, at the close of each half year, these advances would be adjusted at the current rate of exchange instead of at the rate of 1*s.* 10*d.*, 1*s.* 11*d.*, and 2*s.* as provided by the several contracts. This change came into operation last year, and the sterling cost of stores purchased in this country through advances as explained above, and used for maintenance, repairs, or any Revenue purpose, has been converted into Indian currency at the exchange of 1*s.* 7¼*d.* for the first and 1*s.* 8*d.* for the second half year. The effect has been to transfer from the public exchequer to the guaranteed railways the charge of 110,864*l.*, as will be seen by the subjoined statement. The Government, however, only really benefit when surplus profits are earned, in which case the shareholders bear one half of the loss :—

	£
East Indian	26,958
Great Indian Peninsula	47,969
Madras	10,757
Oudh and Rohilkund	4,530
Eastern Bengal	2,272
Sind, Punjab and Delhi	4,756
Bombay, Baroda and Central India	5,290
South Indian	8,332
	£110,864

GUARANTEED RAILWAYS.

Year.	Capital expended to 31st March.	Net Revenue for Year to 31st December.	Guaranteed Interest for Year to 31st December.	Interest in excess of Revenue.	Revenue in excess of Interest.
	£	£	£	£	£
1870	83,910,587	2,846,600	4,344,113	1,497,513	—
1871	87,686,857	2,686,260	4,544,764	1,858,504	—
1872	90,183,585	2,869,223	4,603,853	1,734,630	—
1873	90,660,830	3,185,069	4,613,573	1,428,504	—
1874	91,353,883	3,956,071	4,651,088	695,017	—
1875	92,441,794	3,576,514	4,641,979	1,065,465	—
1876	93,392,600	4,442,430	4,658,947	216,517	—
1877	94,108,059	6,117,226	4,662,635	—	1,454,591
1878	95,430,863	5,002,028	4,708,134	—	293,894
1879	96,444,666	5,062,188	4,748,233	—	313,955

67. The following table gives the results obtained from each undertaking during the past year :—

RESULTS of WORKING the GUARANTEED RAILWAYS for the YEAR ended 31st December 1879.

Railway Company.	Net Revenue.	Guaranteed Interest.	Revenue in excess of Interest.	Interest in excess of Revenue.	Extra Dividend (in excess of Guaranteed Interest) received by the Companies as Surplus Profits.	
					Rate per Cent. for Half Year to 30th June 1879.	Rate per Cent. for Half Year to 31st Dec. 1879.
	£	£	£	£	£ *s.* *d.*	£ *s.* *d.*
Bombay, Baroda and Central India	347,682	400,515	—	52,833	—	—
Eastern Bengal	223,073	151,411	71,662	—	—	1 5 0
East Indian	2,665,751	1,498,000	1,167,751	—	1 3 9	0 17 4
Great Indian Peninsula	935,356	1,140,869	—	205,513	0 6 0	—
Madras	190,224	522,885	—	332,661	—	—
Oudh and Rohilkund	181,993	280,000	—	98,007	—	—
Sind, Punjab and Delhi	416,214	553,762	—	137,548	—	—
South Indian	101,895	200,791	—	98,896	—	—
Totals	5,062,188	4,748,233	1,239,413	925,458	1 9 9	2 2 4

STATEMENT shewing the Amount of SURPLUS PROFITS earned by Guaranteed Railways to 31st December 1879 inclusive.

Railway Company.	To end of 1875.	Half year to 30th June 1876.	Half year to 31st Dec. 1876.	Half year to 30th June 1877.	Half year to 31st Dec. 1877.	Half year to 30th June 1878.	Half year to 31st Dec. 1878.	Half year to 30th June 1879.	Half year to 31st Dec. 1879.	Total.
	£	£	£	£	£	£	£	£	£	£
Bombay, Baroda and Central India	16,533	20,397	—	—*	—	—*	—	—*	—	36,930
Eastern Bengal	25,372	—	35,347	13,908	99,602	26,158	64,981	317	63,257†	328,942
East Indian:										
Main Line	1,930,473	352,531	299,133	637,385	530,715	524,253	293,897	623,278	468,967	5,660,632
Jabalpur Line	11,238	—	—	62,984	37,297	14,794	11,937	56,545	—	194,795
Great Indian Peninsula	213,393	125,816	—	401,754	34,822	364,944	—	111,613	—	1,252,342
Totals - £	2,197,009	498,744	334,480	1,116,031	702,436	930,149	370,815	791,753	532,224	7,473,641

* Surplus profits were earned by the Bombay, Baroda and Central India Railway Company during these half years, but no division took place, owing to the special agreement that all surplus profits should be applied to the construction of the Nerbudda Bridge.
† This is exclusive of a sum of 6,000*l.*, which was applied by special agreement to the cost of relaying rails.

India Office, 5th August 1880. THOS. W. KEITH, Accountant General.

GUARANTEED INTEREST.—INDIAN RAILWAYS.

STATEMENT of the Total Amount of INTEREST advanced to each of the under-mentioned Railway Companies to 31st December 1879.

Railway Company.	Interest advanced to 31st December 1878.	Interest advanced during 1879.*						Total.		
		England.			India.					
	£ s. d.	£ s. d.			£ s. d.			£ s. d.		
Bombay, Baroda and Central India	5,869,192 16 9	400,316	19	8	198	0	3	400,514	19	11	6,269,707	16	8
Eastern Bengal	2,035,760 15 11	150,217	10	10	502	17	6	150,720	8	4	2,186,481	4	3
East Indian, Main Line	23,818,489 19 7	1,331,727	18	0	4,989	9	7	1,336,717	7	7	25,155,207	7	2
„ Jabalpur Line	2,354,647 0 9	159,727	10	9	202	14	11	159,930	5	8	2,514,577	6	5
Great Indian Peninsula	16,971,689 8 11	1,127,012	13	10	5,249	17	6	1,132,262	11	4	18,103,952	0	3
Madras	8,415,161 7 10	519,933	16	5	—			519,933	16	5	8,935,095	4	3
Oudh and Rohilkund	2,049,948 10 3	278,813	5	0	1,186	15	0	280,000	0	0	2,329,948	10	3
Sind, Punjab and Delhi	7,484,192 9 8	551,876	10	0	1,885	7	0	553,761	17	0	8,037,954	6	8
South Indian	1,908,373 18 4	196,390	12	0	—			196,390	12	0	2,104,764	10	4
Totals - £	70,907,456 8 0	4,716,016	16	6	14,215	1	9	4,730,231	18	3	75,637,688	6	3

* It will be observed that the Interest advanced *during* the year is here given, while the amount deducted from the net receipts to shew the surplus profits is that which is advanced for the year during which those receipts were realized. It is the practice to pay the guaranteed interest the day after the half year for which it is due has closed.

India Office, 20th May 1880. THOS. W. KEITH, Accountant General.

A STATEMENT shewing approximately the Amounts advanced on account of GUARANTEED INTEREST to the several under-mentioned Railway Companies to 30th June 1879, beyond the amount of Net Revenue applied thereto.

Railway Company.	Total Amount advanced to 31st December 1879.*	Aggregate of Net Revenue Balances for the several half years to 30th June 1879, inclusive.	Net Amount advanced.
	£	£	£
Bombay, Baroda and Central India	6,269,708	3,253,812	3,015,896
Eastern Bengal	2,186,481	1,781,817	404,664
East Indian, Main Line	25,155,207	22,814,744	2,340,463
„ Jabalpur Line	2,514,577	1,117,981	1,396,596
Great Indian Peninsula	18,103,952	11,832,499	6,271,453
Madras	8,935,095	3,962,614	4,972,481
Oudh and Rohilkund	2,329,949	899,600	1,430,349
Sind, Punjab and Delhi	8,037,954	2,180,871	5,857,083
South Indian	2,104,765	812,820	1,291,945
Totals	£75,637,688	48,656,758	26,980,930

* The Interest for the half year to 30th June 1879 not being paid until the succeeding half year.

India Office, 20th May 1880. THOS. W. KEITH, Accountant General.

STATEMENT shewing the REVENUE from the INDIAN RAILWAYS in 1878 and 1879, as given in the Accounts passed by Government.

Railway.		Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
		Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
GUARANTEED RAILWAYS.		£	£	£	£	£	£	£		£
Bombay, Baroda and Central India	1879	212,693	423,251	19,728	655,672	66,413	241,577	307,990	46·97	347,682
	1878	*217,013*	*398,603*	*17,404*	*633,020*	*70,822*	*224,212*	*295,034*	*46·60*	*337,986*
Eastern Bengal*	1879	136,805	230,124	45,930	412,859	33,295	156,491	189,786	45·96	223,073
	1878	*140,191*	*240,149*	*45,526*	*425,866*	*30,717*	*155,434*	*186,151*	*43·71*	*239,715*
East Indian, Main Line	1879	926,213	2,533,326	145,501	3,605,040	364,879	783,660	1,148,539	31·85	2,456,501
	1878	*881,347*	*2,311,789*	*111,016*	*3,304,152*	*353,420*	*799,968*	*1,153,388*	*34·97*	*2,150,764*
„ Jabalpur Line	1879	98,422	236,787	30,403	365,612	33,262	123,100	156,362	42·76	209,250
	1878	*95,285*	*214,263*	*32,616*	*342,164*	*36,958*	*111,028*	*147,986*	*43·25*	*194,178*
Great Indian Peninsula	1879	557,772	1,698,814	59,060	2,315,646	376,600	1,003,690	1,380,290	59·60	935,356
	1878	*565,781*	*1,934,679*	*99,647*	*2,600,107*	*260,588*	*1,011,155*	*1,271,743*	*48·91*	*1,328,364*
Madras	1879	240,276	341,964	25,188	607,428	120,362	296,842	417,204	68·68	190,224
	1878	*255,064*	*327,207*	*25,494*	*607,765*	*115,934*	*346,266*	*462,200*	*76·04*	*145,565*
Oudh and Rohilkund	1879	178,929	213,166	42,389	434,484	50,795	201,696	252,491	58·11	181,993
	1878	*171,803*	*248,671*	*41,729*	*462,203*	*40,714*	*209,942*	*260,656*	*54·23*	*211,547*
Sind, Punjab and Delhi*	1879	355,309	585,142	105,894	1,046,345	136,404	493,727	630,131	60·22	416,214
	1878	*282,110*	*426,542*	*109,950*	*818,602*	*131,464*	*396,547*	*528,011*	*64·50*	*290,591*
South Indian	1879	191,957	125,502	4,739	322,198	50,391	169,912	220,303	68·37	101,895
	1878	*182,667*	*117,539*	*9,636*	*309,842*	*46,183*	*160,341*	*206,524*	*66·65*	*103,318*
Totals for GuaranteedRailways	1879	2,898,376	6,388,076	478,832	9,765,284	1,232,401	3,470,695	4,703,096	48·16	5,062,188
	1878	*2,791,261*	*6,219,442*	*493,018*	*9,503,721*	*1,086 800*	*3,414,893*	*4,501,693*	*47·36*	*5,002,028*

* The figures include the earnings from the Flotillas worked in connection with these Railways.

STATEMENT showing the REVENUE from the INDIAN RAILWAYS in 1878 and 1879, as given in the Accounts passed by Government—*continued*.

Railway.		Receipts.				Expenditure.			Per-centage of Expenditure to Gross Receipts.	Net Receipts.
		Passengers.	Goods.	Miscellaneous.	Total.	Maintenance.	Working, &c.	Total.		
STATE RAILWAYS.		£	£	£	£	£	£	£		£
Calcutta and South-Eastern	1879	8,337	3,322	1,750	13,409	2,275	6,634	8,909	66·44	4,500
	1878	*8,097*	*3,681*	*1,050*	*12,828*	*2,856*	*6,581*	*9,437*	*73·56*	*3,391*
Dhond and Manmad	1879	14,347	24,682	7,726	46,755	10,070	39,452	49,522	105·91	Loss 2,767
	1878	*4,964*	*8,002*	*559*	*13,525*	*1,108*	*16,611*	*17,719*	*131·00*	*Loss 4,194*
Holkar and Scindia-Neemuch	1879	39,743	70,724	3,746	114,213	17,270	69,267	86,537	75·76	27,676
	1878	*33,328*	*56,571*	*1,764*	*91,663*	*14,251*	*48,760*	*63,011*	*68·74*	*28,652*
Indus Valley	1879	79,399	220,181	28,174	327,754	49,530	216,478	266,008	81·30	61,746
	1878	*23,002*	*33,557*	*652*	*57,211*	*19,979*	*50,376*	*70,355*	*122·97*	*Loss 13,144*
Muttra-Hathras	1879	8,914	3,553	126	12,593	1,393	5,529	6,922	54·96	5,671
	1878	*6,929*	*2,891*	*10*	*9,830*	*867*	*4,376*	*5,243*	*53·33*	*4,587*
Nalhati	1879	6,083	2,862	233	9,178	1,148	5,049	6,197	67·52	2,981
	1878	*5,698*	*3,345*	*165*	*9,208*	*1,503*	*5,365*	*7,168*	*77·84*	*2,040*
Northern Bengal	1879	44,201	67,398	13,632	125,231	29,211	85,921	115,132	91·93	10,099
	1878	*30,922*	*43,563*	*14,041*	*88,526*	*11,013*	*57,260*	*68,273*	*77·12*	*20,253*
Patna-Gya	1879	16,945	5,001	1,105	23,051	2,673	10,199	12,872	55·84	10,179
	1878	*Not opened till 1879.*								
Punjab Northern	1879	69,313	109,481	6,444	185,238	18,166	128,013	146,179	78·91	39,059
	1878	*40,883*	*49,270*	*1,647*	*91,800*	*27,589*	*61,302*	*88,891*	*96·83*	*2,909*
Rajputana	1879	93,351	250,374	10,816	354,541	47,416	189,209	236,625	66·74	117,916
	1878	*82,317*	*204,451*	*9,409*	*296,177*	*36,992*	*146,230*	*183,222*	*61·86*	*112,955*
Rangoon and Irrawaddy Valley	1879	69,697	24,412	1,482	95,591	26,599	54,818	81,417	85·17	14,174
	1878	*67,307*	*27,921*	*1,068*	*96,296*	*29,534*	*60,047*	*89,581*	*93·03*	*6,715*
Sindia	1879	6,165	3,029	—103*	9,091	3,571	8,699	12,270	134·96	Loss 3,179
	1878	*5,045*	*3,507*	*790*	*9,342*	*2,922*	*9,252*	*12,174*	*130·31*	*Loss 2,832*
Tirhut	1879	21,224	14,866	2,364	38,454	6,869	21,782	28,651	74·50	9,803
	1878	*19,290*	*15,809*	*1,816*	*36,915*	*3,669*	*19,449*	*25,118*	*68·04*	*11,797*
Wardha Coal	1879	2,852	10,011	12,844	25,707	2,705	22,029	24,734	96·21	973
	1878	*2,223*	*9,349*	*186*	*11,958*	*3,355*	*7,560*	*10,915*	*91·27*	*1,043*
Western Rajputana	1879	2,187	2,235	358	4,780	—†	3,787	3,787	79·22	993
	1878	*A section of this line (35¾ miles in length) was opened in May 1878. The earnings, however, are included with those of the Rajputana Line, with which it has been amalgamated.*								
Native States: Amraoti	1879	1,324	5,629	37	6,990	290	5,083	5,373	76·86	1,617
	1878	*1,017*	*7,143*	*10*	*8,170*	*283*	*3,277*	*3,560*	*43·57*	*4,610*
Native States: Khamgaon	1879	562	3,051	195	3,808	429	3,406	3,835	100·70	Loss 27
	1878	*173*	*4,289*	*94*	*4,556*	*289*	*1,612*	*1,901*	*39·13*	*2,937*
Native States: Nizam's	1879	30,035	38,163	1,242	69,440	12,035	48,411	60,446	87·04	8,994
	1878	*24,036*	*48,333*	*186*	*72,555*	*8,956*	*44,964*	*53,920*	*74·31*	*18,635*
Totals for State Railways	1879	514,679	858,974	92,171	1,465,824	231,650	923,766	1,155,416	78·82	310,408
	1878	*355,533*	*521,552*	*33,447*	*910,562*	*167,466*	*543,022*	*710,488*	*78·00*	*200,374*
Grand Total for all Railways	1879	3,413,055	7,247,050	571,003	11,231,108	1,464,051	4,394,461	5,858,512	52·16	5,372,596
	1878	*3,146,707*	*6,741,324*	*526,403*	*10,414,583*	*1,254,266*	*3,957,915*	*5,212,181*	*50·04*	*5,202,402*

* Caused by the adjustment of certain outstandings.

† Not stated in the returns from India.

NET EARNINGS of the INDIAN RAILWAYS during 1879.

Railway.	Amount.	Per Train Mile.	Per-centage of Net Earnings to Gross Receipts.
GUARANTEED.	£	s.	
Bombay, Baroda and Central India	347,682‡	5·26	53·03
Eastern Bengal	223,073*‡	6·96	59·85
East Indian, Main Line	2,456,501‡	6·67	68·14
„ Jabalpur Line	209.250‡	4·69	57·23
Great Indian Peninsula	935,356‡	3·05	40·41
Madras	190,224‡	1·83	31·32
Oudh and Rohilkund	181,993§	2·83	41·89
Sind, Punjab and Delhi	416,214*‡	3·15	44·42
South Indian	101,895‖	2·03	31·63
Total and Averages for Guaranteed Railways	5,062,188	4·22	52·28
STATE.			
Calcutta and South-Eastern	4,500§	2·23	33·56
Dhond and Manmád	*Loss* 2,767§	*—0·38*	*—5·91*
Holkar and Sindia-Neemuch	27,676§	1·29	24·23
Indus Valley	61,746§	1·20	18·96
Muttra-Hathras	5,671§	2·14	45·03
Nalhati	2,981§	1·47	32·48
Northern Bengal	10,099§	0·41	8·06
Patna-Gya†	10,179§	4·15	44·16
Punjab Northern	39,059§	1·98	21·08
Rajputana	117,916§	1·60	33·26
Rangoon and Irrawaddy Valley	14,174§	0·85	14·83
Sindia	*Loss* 3,179§	*—1·26*	*—34·97*
Tirhut	9,803§	1·52	25·49
Wardha Coal	973§	0·5	3·8
Western Rajputana†	993§	0·71	20·8
NATIVE STATES.			
Amraoti	1,617§	6·02	23·13
Khamgaon	*Loss* 27§	*—0·07*	*—0·71*
Nizam's	8,994§	0·76	12·95
Total and Averages for State Railways	310,408	1·25	21·39
Total and Averages for all Railways	5,372,596	3·71	48·25

* The figures include the earnings of the Flotillas worked by these Railways.

† Open for a portion of the year only.

‡ Converted from rupees into sterling, so far as Indian expenditure is concerned, at 1*s.* 10*d.* the rupee.

‖ Converted at 1*s.* 11*d.* the rupee.

§ Converted at 2*s.* the rupee.

TRAFFIC AND WORKING.

68. The tables which occupy pages 46 to 53 of this Report contain details connected with the traffic and working of each open line during the year 1879. There has been an increase, compared with last year, both in the amount of goods and in the number of passengers carried, but the increase is not large, especially when the additional mileage is taken into consideration. In 1878, the tonnage per mile open was 1,005; last year it was 1,049. In 1878, the number of passengers was 4,754 per open mile; last year it was 5,140. The crops were on the average good throughout the country. There does not appear to have been a marked deficiency in any districts. Stocks were low in consequence of the severe famines which have taken place during recent years. There has consequently been an absence of any grain movement to relieve local wants, and it has been a year of storing. The railways may profit hereafter by the transport of the stores thus accumulating, but the demand must arise before the supply will be sent.

Goods.

69. The aggregate quantity of goods carried on all the railways amounted to 7,876,766 tons, as compared with 7,296,335 in the year 1878. The amount received for the conveyance of the same was 7,248,752*l.* in 1879, and 6,734,059*l.* in 1878. There was a slight increase in cotton. Grain was rather less, being 1,985,819 tons compared with 2,077,101. Rice diminished from 432,023 to 413,148 tons. Piece goods increased from 137,448 to 179,892 tons; military stores from 64,657 to 100,792 tons, and salt from 646,564 to 772,998 tons. Seeds, on the other hand, decreased from 679,618 to 568,345; tobacco from 74,920 to 70,082, and opium from 19,981 to 17,165 tons. The railways on which the traffic was less, or on which there was little increase, were the East Indian, the Eastern Bengal, the Oudh and Rohilkund, and the Bombay, Baroda and Central India. Those on which an increase took place were the Great Indian Peninsula, the Madras, the South Indian, the Sind, Punjab and Delhi, and the Rajputana. Traffic on the lines in the north-west was augmented by the transport of military stores and troops to the frontier.

70. There must always be a sympathy between railway traffic and trade. If trade is not prosperous, railways suffer. There has generally been a slight improvement in the exports and imports during the last year of the commodities above mentioned. Raw Cotton (exported), for instance, has increased from 148,303 tons in 1878–79 to 197,485 in 1879–80; grain, other than rice, (exported) from 82,359 to 146,170 tons; cotton piece goods (exported) from 22,517,799 yards to 25,800,501 yards; cotton piece goods (imported) from 1,127,596,262 yards to 1,332,923,644 yards, and rice (exported) from 1,061,861 tons to 1,119,265. The exports of seeds and tobacco have, on the other hand, diminished, the former from 360,018 tons to 354,573, and the latter from 6,127 tons to 5,095.

Passengers.

71. The aggregate number of passengers (exclusive of season ticket holders) carried over the lines has increased by 4,654,882, namely, from 38,489,586 to 43,144,468. On the guaranteed lines 32,200,413 were carried in 1878, and 34,681,071 in 1879. On the State lines there were 6,289,173 in 1878, and 8,463,396 in 1879. The proportion per cent. of first class was ·519; of second, 2·049, and of the lower classes, 97·432. In 1878 these proportions were ·651, 2·472, and 96·877 respectively. The lower classes increased in numbers from 37,320,413 in 1878 to 42,036,286, and likewise the first class from 217,543 to 224,256, while the second class fell from 951,630 to 883,926.

72. The passenger train mileage was 5,392,544, compared with 4,067,449 of the previous year; the goods, 13,546,878, compared with 12,723,212; the minerals, 357,561, compared with 271,246, and the mixed goods and passengers 8,964,032½, as against 8,934,495 in 1878. On the guaranteed lines the total train mileage was 23,975,856½ compared with 23,289,957½, and the number of train miles per open mile was 3,954 in 1879 and 3,861 in 1878. On the State lines the train mileage was 4,939,287½ in 1879 and 3,280,438 in 1878; per open mile, 2,113 in 1879 and 1,589 in 1878.

Working.

73. The expenses of working and maintenance during the year 1879 amounted to 5,774,510*l.*, compared with 5,101,335*l.* of the previous year. The cost of maintenance was 1,463,550*l.*, and of working 4,310,960*l.* The average cost per mile open of main-

taining the principal 5 ft. 6 in. gauge lines was 217*l.*, and per train mile 12·48*d.* That of maintaining the chief metre gauge lines was 97*l.* per mile open, and 10·25*d.* per train mile. The average cost of working the principal 5ft. 6 in. gauge lines was 608*l.* per mile open, and 2·90*s.* per train mile; while on the chief metre gauge lines the cost was 326*l.* per mile open, and 2·85*s.* per train mile.

74. The following table gives the number of locomotives and vehicles employed in working the different lines. It will be observed that the locomotives have increased during the year from 1,832 to 1,946; the passenger carriages from 5,407 to 5,760; and the goods wagons from 31,502 to 35,988.

Railway.	Locomotives.				Vehicles.							
					Passenger Carriages.				Goods Trucks and Wagons.			
	Previous Number.	Alterations during the Year.		Total Number on 31st December 1879.	Previous Number.	Alterations during the Year.		Total.	Previous Number.	Alterations during the Year.		Total.
		Added.	Withdrawn.			Added.	Withdrawn.			Added.	Withdrawn.	
GUARANTEED.												
Bombay, Baroda and Central India	80	—	—	80	295	2	2	295	2,671	96	127	2,640
Eastern Bengal	43	5	—	48	187	4	15	176	791	176	1	966
East Indian	503	43	6	545	982	—	—	982	7,120	609	3	7,726
Great Indian Peninsula	422	5	—	427	1,814	—	—	1,814	7,252	600	—	7,852
Madras	158	1*	1*	158	391	—	15	376	3,223	754	341	3,636
Oudh and Rohilkund	90	—	—	90	332	2	2	332	2,258	69	6	2,321
Sind, Punjab and Delhi	151	7	—	158	527	12	—	539	3,028	346	12	3,362
South Indian	116	6	4	118	390†	70	29	431	1,556†	107	125	1,538
STATE RAILWAYS	269‡	53	—	322	986‡	326	—	1,315‡	3,603‡	2,344	—	5,947‡
Totals	1,832	125	11	1,946	5,407	416	63	5,760	31,502	5,101	615	35,988

Railway.	Total Number of Vehicles on 31st December 1879.
GUARANTEED.	
Bombay, Baroda and Central India	2,938
Eastern Bengal	1,142
East Indian	8,708
Great Indian Peninsula	9,166
Madras	4,012
Oudh and Rohilkund	2,653
Sind, Punjab and Delhi	3,901
South Indian	1,969
STATE RAILWAYS	7,262‡
Totals	41,748

* A tank engine destroyed at the Papaghui Bridge accident and renewed as a goods engine.

† These numbers differ from those given last year in consequence of the Arconum-Conjeveram Section stock being then thrown out of work by the conversion of gauge to the metre.

‡ These figures are only approximate.

Coal supply.

75. The statement on the next page relates to the cost and consumption of coal and wood, and shews what an important factor fuel is in the economical working of a railway. Last year 512,858 tons were consumed, at a cost of 662,589*l.* The year before 511,931 tons cost 575,066*l.* In 1878 367,893 tons of coal were imported into India for the railways. Last year the quantity imported was 362,762, the Native coal being 144,038 and 150,096 for each year respectively. The average cost per ton in 1878 was 1*l.* 2*s.* 5*d.*; in 1879 it was 1*l.* 5*s.* 10*d.* Coal from Indian sources is coming more into use. An arrangement has been made between the Great Indian Peninsula Railway Company and the Government for the supply of 50,000 tons a year (being about one third of the whole quantity consumed annually on the railway) from the Warora coal mines of the Central Provinces. Inquiries have been made with the view of obtaining in Madras a supply from the Bengal coal fields, but the attempts have hitherto failed in consequence of the difficulty in getting freights. It has been estimated that, by chartering vessels, coal might be sent from Calcutta at a cost of about Rs. 14. 4. 0 delivered in Madras, viz., coal Rs. 9. 8. 0, freight and expenses Rs. 4. 12. 0, total Rs. 14. 4. 0. The matter is receiving the attention of the railway authorities at Madras.

STATEMENT shewing the COST and CONSUMPTION of FUEL at the Point of Delivery on the respective Lines during the Year 1879.

Railway.	COAL. Quantity. Indian.	COAL. Quantity. English.	COAL. Total Cost.	COAL. Average Cost per Ton.	COAL. Consumption. Per Train Mile.	COAL. Consumption. Per Vehicle per Mile.	COKE. Quantity.	COKE. Total Cost.	COKE. Average Cost per Ton.	COKE. Consumption. Per Train Mile.	COKE. Consumption. Per Vehicle per Mile.	PATENT FUEL. Quantity.	PATENT FUEL. Total Cost.	PATENT FUEL. Average Cost per Ton.	PATENT FUEL. Consumption. Per Train Mile.	PATENT FUEL. Consumption. Per Vehicle per Mile.	WOOD. Quantity.	WOOD. Total Cost.	WOOD. Average Cost per Ton.	WOOD. Consumption. Per Train Mile.	WOOD. Consumption. Per Vehicle per Mile.
GUARANTEED.	Tons.	Tons.	£ s. d.	£ s. d.	Lbs.	Lbs.	Tons.	£ s. d.	£ s. d.	Lbs.	Lbs.	Tons.	£ s. d.	£ s. d.	Lbs.	Lbs.	Tons.	£ s. d.	£ s. d.	Lbs.	Lbs.
Bombay, Baroda and Central India	—	29,515	50,354 2 0	1 14 8	49·72	1·72	—	—	—	—	—	—	—	—	—	—	340	157 2 2	0 9 2	0·58	0·02
Eastern Bengal	15,747	460	13,976 11 8	0 16 1	54·04	2·51	—	—	—	—	—	—	—	—	—	—	61	39 6 7	0 13 10	0·20	0·009
East Indian, Main Line	163,512	—	60,035 12 5	0 7 4	49·74	—	1,733	453 16 3	0 5 3	—	—	—	—	—	—	—	32	10 14 6	0 6 8	—	—
Ditto, Jabalpur Line	18,794	—	22,589 4 4	1 4 0	47·16	—	13.	3 10 4	0 5 5	—	—	—	—	—	—	—	—	—	—	—	—
Great Indian Peninsula	37,556	91,031	126,407 13 9	1 10 10	47·06	2·15	—	—	—	—	—	—	—	—	—	—	1,561	743 6 2	0 9 6	0·57	0·03
Madras	—	3,988*	7,337 0 0	1 16 9	4·49	0·24	1	1 0 0	1 0 0	—	—	7,233	£13,375	1 17 0	7·66	0·43	76,875	31,777 0 0	0 8 11	76·84	4·32
Oudh and Rohilkund	25,339	—	36,601 6 10	1 8 10	42·85	1·91	—	—	—	—	—	—	—	—	—	—	673	366 15 3	0 10 8	1·14	0·05
Sind, Punjab and Delhi	43,218	4,666	103,105 7 7	2 2 7	37·04	1·55	—	—	—	—	—	—	—	—	—	—	15,863	7,465 17 6	0 9 5	12·67	0·51
South Indian	—	17,096*	27,851 8 6	1 12 7	30·62	1·62	—	—	—	—	—	—	—	—	—	—	6,697	3,223 14 5	0 9 7	11·99	0·63
Totals and averages for Guaranteed Railways	304,166	146,496	518,758 7 1	1 3 1	40·41	1·67	1,747	458 6 7	0 5 4	—	—	7,233	£13,375	1 17 0	7·66	0·43	96,102	43,777 15 7	0 9 1	14·84	0·79
STATE.																					
Calcutta and South-Eastern	1,045	—	978 4 0	0 18 8	57·89	2·66	—	—	—	—	—	49	109 2 0	2 4 6	2·71	0·12	3	1 6 0	0 8 8	0·17	0·008
Dhond and Manmad	—	3,553	9,418 5 6	2 13 0	54·37	3·60	—	—	—	—	—	—	—	—	—	—	57	64 2 10	1 2 6	0·87	0·06
Holkar and Sindia-Neemuch	111	—	244 1 0	2 3 9	1·79	0·91	—	—	—	—	—	—	—	—	—	—	12,748	12,355 17 6	0 19 5	66·60	3·66
Indus Valley	5,061	—	15,183 0 0	3 0 0	35·55	0·55	—	—	—	—	—	—	—	—	—	—	39,369	24,114 10 9	0 13 7	105·27	4·28
Muttra-Hathras	569	—	1,164 4 0	2 0 11	29·27	2·36	—	—	—	—	—	—	—	—	—	—	9	4 2 0	0 9 1	0·02	0·001
Nalhati	642	—	633 18 0	0 19 8	35·52	3·30	—	—	—	—	—	—	—	—	—	—	5	1 12 0	0 6 4	0·28	0·03
Northern Bengal	8,757	—	12,235 11 7	1 7 11	37·74	1·72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Patna-Gya	982	—	909 2 0	1 6 7	35·09	1·77	—	—	—	—	—	—	—	—	—	—	15	6 10 9	0 8 9	0·77	0·39
Punjab Northern	10,465	—	34,152 15 0	3 5 3	59·67	2·04	—	—	—	—	—	—	—	—	—	—	2,133	1,506 1 0	0 14 0	13·16	0·41
Rajputana	22,095	—	46,236 8 11	2 1 10	33·65	1·87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rangoon and Irrawaddy Valley	387	—	1,273 8 5	3 10 9	2·58	0·13	6·16	26 2 9	4 5 0	0·04	0·00	—	—	—	—	—	7,888	4,076 9 8	0 10 8	52·72	2·59
Sindia	789	—	1,551 7 7	2 0 9	34·00	3·42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tirhut	1,636	—	2,899 1 9	1 7 0	28·35	1·77	—	—	—	—	—	—	—	—	—	—	69	37 2 9	0 10 8	1·20	0·08
Wardha Coal	1,229	47	811 0 11	0 12 8	74·97	3·59	—	—	—	—	—	—	—	—	—	—	25	10 17 9	0 8 8	1·47	0·07
Western Rajputana	341	—	1,112 11 10	3 5 1	31·33	1·96	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
NATIVE STATES.																					
Amraoti	261	—	393 11 10	1 10 2	103·75	6·74	—	—	—	—	—	—	—	—	—	—	12	11 2 0	0 18 4	5·15	0·32
Khamgaon	274	—	498 15 1	1 16 3	84·76	7·38	—	—	—	—	—	—	—	—	—	—	8	3 5 10	0 8 0	2·56	0·22
Nizam's	4,281	—	14,825 5 2	3 9 3	40·88	2·13	—	—	—	—	—	—	—	—	—	—	334	237 1 1	0 14 2	3·21	0·41
Totals and averages for State Railways	58,590	3,600	148,830 12 7	2 6 3	43·67	2·61	6·16	26 2 9	4 5 0	0·04	0·00	49	109 2 0	2 4 6	2·71	0·12	62,675	42,430 1 2	0 13 6	18·02	0·90
Indus Steam Flotilla	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36,312	16,647 2 5	0 9 1	—	—
Totals and averages for all Railways and Flotilla	362,756	150,096	662,588 19 8	1 5 10	42·55	2·34	1753·16	484 9 4	0 5 6	0·04	0·00	7,282	13,484 2 0	1 17 1	5·18	0·27	195,089	102,854 19 2	0 10 6	16·43	0·84

* Part from Australia.

76. It will be seen, by reference to the table before mentioned and to the one subjoined, that considerable diversity occurs in the cost of working the same departments on the various railways. In comparing the results, the different circumstances of each should be borne in mind. The price of coal has just been alluded to as an important factor. But there are others. On one line, for instance, the traffic may be very irregular during the year, being heavy for a few months and light at other times. Such a condition of things would necessarily make the economical use of rolling stock more difficult than if the traffic were evenly distributed. An unequal up and down traffic would have a similar effect. The physical characteristics of a line, such as are presented on the sections of the Great Indian Peninsula Railway,* where the ghats are surmounted by steep inclines, or on the Madras, where the gradients are also heavy, must likewise influence the cost of working. One line, moreover, may command only a small traffic, because it traverses a district poor in agricultural produce and with a sparse population, while another may pass through one highly populated, yielding abundant crops and connecting commercial entrepôts. A large traffic naturally reduces the proportion of expenditure to receipts. At the same time it must be remarked that, after taking all these advantages and disadvantages into consideration, good, bad, or indifferent management has a greater influence than any other in determining the success or failure of a line.

Railway.	Working Expenses per Train Mile.	Cost of Maintenance.		Cost of Locomotive Power per Train Mile.	Average Cost of carrying		Average Profit on carrying	
		Per Train Mile.	Per Open Mile.		One Passenger One Mile.	One Ton One Mile.	One Passenger One Mile.	One Ton One Mile.
GUARANTEED.								
	s.	*d.*	£	*d.*	*d.*	*d.*	*d.*	*d.*
Bombay, Baroda and Central India	4·66	12·07	157	19·11	·186	·442	·139	·660
Eastern Bengal	5·67	11·94	209	14·06	·216	·445	·165	·845
East Indian { Main Line	3·12	11·89	284	8·88	·135	·232	·238	·616
East Indian { Jabalpur	3·50	8·94	148	15·28				
Great Indian Peninsula	4·52	14·80	295	18·81	·27	·582	·105	·506
Madras	4·02	13·93	140	16·94	·25	·633	·072	·427
Oudh and Rohilkund	3·81	9·20	93	14·90	·127	·407	·113	·383
Sind, Punjab and Delhi	3·95	11·58	205	16·75	·18	·55	·12	·598
South Indian	3·52	9·67	79	14·45	—	—	—	—
STATE.								
Rajputana	3·22	7·74	102	17·76	·188	·634	·069	·676

77. There is, in India, as able, energetic, and conscientious a staff of officers employed on the management and working of the railways as can be found anywhere, and they are doing their utmost to promote economy and to improve the traffic returns. In discharging their duties they receive the warm support and encouragement of the Government officers, so that, while differences of opinion naturally occur sometimes on questions of policy as well as on matters incidental to working, there is every reason to expect that the prosperity of the lines will not suffer for want of an enlightened administration.

78. The customs and circumstances of the country have so long favoured the employment of cattle for conveying produce from one part of the country to another,

* The following figures shew the difference of cost in working a mile on the main line and on the ghat sections of the Great Indian Peninsula Railway:—

	Cost per Mile.		
	Locomotive Expenses.	Carriage and Wagon Expenses.	Total.
	s.	*s.*	*s.*
Main Line	·43	·143	·573
Ghats	2·32	·429	2·749

that in some districts, especially where the railway is not near to a town or mart, traffic is still conducted on the road in preference to the rail; but this cannot last long. The competition will soon break down if sufficiently low charges and other temptations are offered. Colonel Medley, R.E., the Consulting Engineer for railways in the Punjab, made some useful suggestions, last year, with respect to the establishment of booking offices in all towns within reach of a line, where goods could be received or delivered as at the railway stations, and also for the establishment of pick up stations at short distances apart where trains could stop when required and take in goods and passengers, which would otherwise have to travel some distance in order to reach a station, but I am not aware that these suggestions have been acted on.

European Agency.

79. European agency is necessarily an expensive part of the management of Indian railways. Experts from England cannot be obtained without the inducement of high pay, and for some time to come the chief positions on the lines will probably be filled by Europeans. Their experience, powers of endurance, and command of resources appear requisite to ensure a skilful and energetic administration. But, as I have shown in a former part of this Report, they are aided by a very large staff of Natives, who numerically far exceed the European element, being about nine to one, and who are being gradually trained to perform duties which have till lately been given to Europeans.

Electrical communication between passengers and guard.

Signalling apparatus by means of Electricity.

80. In connection with the subject of working, I may mention that on the Madras Railway an electrical apparatus, invented by Mr. Winter, the Company's Telegraph Engineer, for effecting communication between passengers and guards, has been successfully worked on the trains of that line during the year. The cost is very little more than the bell and cord, and is reported to be much more efficient. Another electrical arrangement for promoting safety has been introduced by the same Engineer. It consists of an apparatus "which interlocks the block instrument with small "semaphore signals on either side of the station." By this means the driver has a visible danger signal against him until the line is blocked.

RATES AND FARES.

Rates and Fares.

81. The most important question of all in relation to the successful administration of railways is that of rates and fares. The table which follows gives those in force on the different lines in India. The great bulk of the traffic, whether in goods or in passengers, is carried at the lowest charges. About 97 per cent. of the goods and 96 per cent. of the passengers are in this category. It will be seen that on some lines, while the lowest class of goods is put down at 8, 9, 10, and 12 pies per ton per mile, there are special rates as low as 4, 4½, and 5 pies, or from ·450 to ·620*d.* per ton per mile. These apply principally to coal, grain and seed; and the traffic in these articles embraces the most useful and lucrative part of the business of the railways. The rates are both low and remunerative, but compared with those on some American lines the charges are still high. There a ton of grain is carried 450 miles for 10*s.* In India the charge for the same distance at 5 pies per ton per mile is upwards of 22*s.*

FARES and RATES in use on the INDIAN RAILWAYS during 1879.

Railway.	Passengers. Fare for travelling One Mile. First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Goods. Rate for conveying One Ton One Mile. First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth or Highest Class.	Special.
GUARANTEED.				pies.	pies.						
Bombay, Baroda and Central India.	pies.* 15	pies. 7	pies. —	Mail 4 Ordinary 2·5	—	pies. 10	pies. 15	pies. 21	pies. 30	pies. 42	pies. Up to 8.
Eastern Bengal	12	6	—	4·5	3	8·46	16·38	26·14	—	—	From 8·5 to 12·41.
East Indian, Main Line.	18	9	4·5	3	—	9·073	13·61	18·146	22·685	27·221	From 4·537 to 9·073.
East Indian, Jabalpur Line.											
Great Indian Peninsula.	18	9	—	4	2·5	10	14	24	34	48	From 5·5 to 8.
Madras - Single	18	7	—	3	—	10	14	18	24	36	From 4 to 8.
Madras - Return	27	10·5	—	6	—	—	—	—	—	—	—
	Upper	Upper Reserved	Lower	Lower Reserved	Lower Reserved Cmptmnt.	Low		Middle		High	
Oudh and Rohilkund	9	36	2	3	16 & 24	6·80	—	13·61	—	27·22	From 4·53 to 5·44.
Sind, Punjab and Delhi.	12	8	4·5	2·25 2·50 and 3	—	9·07	13·61	18·14	22·68	27·22	From 6·80.
South Indian	8	3	—	2	—	12	—	—	24	54	From 5 to 8.
STATE.											
Calcutta and South-Eastern.	18	9	—	3	—	10·35	22·93	30·06	—	—	8·73.
Dhond and Manmad	18	9	—	—	2·5	10	14	24	34	48	From 5 to 8.
Holkar and Sindia-Neemuch.	16·84	8·42	—	2·81	2·11	12·73	19·10	25·46	—	—	From 6·37 to 7·96.
	†*12 annas*	*6 annas*	—	*2 annas*	*1 a. 6 p.*	*108·88*	*163·32*	*217·76*	—	—	*From 54·44 to 68·05.*
Indus Valley	14	7	—	2	—	9	14	18	23	27	From 6 to 7.
Muttra-Hathras	—	13	5	2·5	—	7·5	15	30	—	—	—
Nalhati	17·70	5·49	—	3·30	—	13·65	22·02	32·50	53·60	89·09	11·22.
Northern Bengal	18	9	—	2·5	—	9·07	18·14	27·22	—	—	From 5·44 to 13·61.
Patna-Gya	17·98	9·01	—	3	—	9·84	14·27	18·84	23·40	28·72	From 9·19 to 9·66.
Punjab Northern	10·85	3·90	—	1·78	—	10·91	15·83	18·08	—	—	From 5·44 to 6·08.
Rajputana	10·92	5·24	—	2·03	—	12·66	14·36	24·60	—	—	From 10·53 to 10·65.
Rangoon and Irrawaddy Valley.	14·90	7·45	—	2·53	—	10·77	14·57	17·74	—	—	From 8·29 to 9·00.
Sindia	10·56	4·06	—	2·11	—	13·24	21·18	28·77	—	—	From 10·66 to 11·01.
Tirhut	15·99	9·57	—	2·39	—	15·10	22·90	29·78	—	—	From 8·15 to 10·26.
Wardha Coal	18	9	—	4	2·5	9·5	13·5	24	34	48	From 5 to 8.
Western Rajputana	13·8	6·9	—	2·5	—	15·6	23·5	31·3	—	—	11·6.
	† *96*	*48*	—	*18*	—	*108·8*	*163·3*	*217·8*	—	—	*81·7.*
NATIVE STATES.											
Amraoti	18	9	—	4	2·5	10	14	24	34	48	From 5 to 8.
Khamgaon	18	9	—	4	2·5	10	14	24	34	48	From 5 to 8.
Nizam's	18	9	—	4	2·5	10	14	24	34	48	From 7 to 8.

* 8 pies is about equivalent to 1*d*. † Station to station rate (*shewn in italics*).

Passenger fares.

82. As regards passenger fares much discussion has taken place and several experiments have been tried. Differences of opinion still exist with respect to the charge which would be most suitable for the lowest class, and at the same time the most remunerative. The first and second class are comparatively of little importance, for on Indian railways 96 per cent. of the receipts from passengers is from the pockets of the native travellers who use the third class. One result of the various fares which have been tried is this, that the smallest reduction at once increases, and the smallest addition at once diminishes, the number of travellers. A reduction may produce a falling off in receipts, and if it be too great, an injurious effect would be produced upon the revenue of a line; but while such extremes should be avoided, the great development which commonly follows reductions must be borne in mind by all railway managers. They should not be satisfied unless improvement is continually taking place. The rate of payment demanded from passengers should depend, in the first

instance, upon the cost of transport, and secondly, upon the power of passengers to pay. It is obvious that no fares can be less per head on an average than the cost of conveyance; and it is also clear that no charge must be so far beyond the capacity of the people as to be prohibitory. The object should be to attract the largest numbers and yet leave a margin for profit between the cost of conveyance and the amount received. We see that on some lines on which the lowest fares are in force this margin is greater than where the highest fare is charged. And even in this country we find with regard to the most costly railways, and where the expenses of working are very large, passengers are carried at the rate of one sixth of a penny per mile. On the Metropolitan lines, for instance, workmen are carried six miles by certain trains for a penny, and these workmen's trains are said to be the most profitable that run.

83. It is desirable to watch carefully the effects of any changes that may be made. During the past year several alterations have been introduced into the passenger fares. On the Sind, Punjab and Delhi Railway the third-class passenger fare was lowered from 3 to 2 pies per mile. During the year the numbers increased by 505,096, or from 2,956,938 in 1878 to 3,462,034 in 1879, and the gross receipts increased from 190,547*l.* to 244,809*l.* The Agent expects a progressive increase.

84. On the Madras Railway a 2-pies rate was substituted on the 1st July for one of 3 pies for all trains except mail trains. During the six months which followed, the number of passengers in the third class increased from 1,311,076 in the corresponding half of 1878 to 1,797,039. "This large increase," Mr. Saunders, the agent and manager, states, "is obviously due to the recent introduction of the 2 pies third-class "fare, the earnings from which produced 871*l.* more than in the half year ending "December 1878." The Directors in their report regard these results as evidence in support of the policy of reduction, and emboldened by its success they have made the 2-pie rate applicable to all mail and stopping trains.

85. To give low fares the fullest chance of proving remunerative, it is very necessary that they shall not be hampered by being limited to certain localities or to certain trains. And yet it is almost impossible to avoid this without adding very largely to the train mileage. On the lines which have the greatest passenger traffic even, the train service, compared with western railways, is very limited, consisting, in many cases, of one mail train and one ordinary train each way, daily. The mail train is necessarily a through train. To serve the local traffic it is desirable that an ordinary train shall call at every station of the line in daylight. The result, in practice, is, that a higher rate comes to be charged for the lowest class by mail or through trains, and the lowest rate of charge is limited to a sectional or local daylight service. Through passengers must either travel by the through mail train, or, with compulsory halts at night, and much consequent expense and waste of time, by the ordinary trains. One effect of this system is to limit the number of passengers by the mail trains, and in some cases such limitation has been found necessary in order to keep down the weight of the trains and keep up their speed. A more powerful type of engine is the remedy here.

86. On the Oudh and Rohilkund Railway the lowest class fare has been altered in a contrary direction and with a different result. The fare was 2 pies per mile, but on the 1st January last was raised to 2½ pies. During the first 21 weeks of 1880 the number of passengers carried has decreased, compared with 1879, by upwards of 274,000, or by 22 per cent. The receipts for the same period are less than in 1879 by upwards of 5,000*l.*, or 7 per cent. During the first 17 weeks of 1880 the neighbouring East Indian Railway, on which there has been no variation of the fares, shews a falling off of not quite 8½ per cent. in the number of lowest class passengers, compared with a similar period in 1879. It is not improbable that the sickness which has prevailed in these Provinces and the effects of last year's scarcity may have operated prejudicially on the traffic. While, therefore, the above statements are given as indications of what is considered by some a retrograde movement, judgment as to the consequences of the enhanced fare must be suspended until a longer time has elapsed to test its operation.

87. Before leaving this subject it will be interesting to present the results of a change of fares which has been recently introduced on the Bombay, Baroda and Central India Railway. Throughout 1877 the lowest class fares were, per mile, 4 pies by

mail train, 3 pies by ordinary train. In 1878 (1st July) the latter was reduced to $2\frac{1}{2}$ pies, and throughout 1879 the fares were 4 pies by mail trains, $2\frac{1}{2}$ pies by ordinary trains. The mail trains go through between Bombay and Ahmedabad, 310 miles, in one day of $14\frac{1}{2}$ hours. By the ordinary trains a passenger is two days, with nearly 24 hours' actual travelling, in accomplishing this distance with a compulsory halt for the night at Surat, midway. Comparing 1879 with 1877, the number of third-class passengers in *mail* trains fell off from 440,634 to 322,285, or by 118,349, equal to 27 per cent., and the receipts fell from 58,350*l.* to 42,870*l.*, or by 15,480*l.*, equal to 26·5 per cent. But the number of third-class passengers in *ordinary* trains increased from 3,826,292 to 4,880,302, or by 1,054,010,* equal to 27·5 per cent., and the receipts increased from 123,898*l.* to 132,934*l.*, or by 9,036*l.*, equal to 7·3 per cent. Taking mail and ordinary train third-class passengers together, the number increased by 935,661, and the receipts fell off by 6,444*l.*; or, whilst the numbers increased by 22 per cent., the receipts decreased by 3·5 per cent.

88. Thus, the reduction of ordinary train fare from 3 pies to $2\frac{1}{2}$ pies per mile was followed by a large expansion of traffic, though up to the end of 1879, with some sacrifice of revenue, which would probably have been avoided had the mail train fare been also lowered, so as to make a less difference between the two fares. For, from 1st January 1880, the mail train fare has been reduced to 3 pies, making it only half a pie more than the ordinary train fare, with the following results up to the latest date (June 12th) to which figures are available, compared with 1879. The mail train passengers have (in these $5\frac{1}{2}$ months) increased in number by 114,065, or 67 per cent., and the receipts from them have increased by 11,099*l.*, or 48 per cent.

89. At the same time, the expansion of the ordinary train traffic has continued, the increase being 138,471 in number, or 6 per cent., though the receipts are less by 6,271*l.*, or 9 per cent. Taking both together, the number of passengers increased by 252,536, or 10 per cent., and the receipts from them increased by 4,828*l.*, or $5\frac{1}{4}$ per cent. These results, obtained in less than two years from the date of reducing the ordinary fare from 3 to $2\frac{1}{2}$ pies, or by half a pie only, and with the drawback of maintaining the mail fare at 4 pies until January last, afford most satisfactory evidence of the prudence of the policy pursued; whilst the lesson taught by maintaining so wide a difference between the lowest class of the mail and ordinary trains is valuable. This case, so far as it has gone, tends to shew that, for the lowest classes of passengers, any difference in fares must be very small to succeed.

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* The average increase per year is half this, or 527,005. The increase in 1876 over 1875 was 245,807.

Returns prepared by Mr. Rendel for 1879.

90. These returns are drawn up on the same principles as those of last year. Conversion from rupees to sterling is made *in all cases* at 1*s.* 10*d.* the rupee.

(*a*) Passenger Traffic.

—	East Indian, Main and Jabalpur Lines together.	Great Indian Peninsula.	Madras.	Bombay, Baroda and Central India.	Sind, Punjab and Delhi.	Eastern Bengal.	Oudh and Rohilkund.	South Indian (Narrow Gauge).	Rajputana (State Line) (Narrow Gauge).	All together.
Average length open, miles	Miles. 1,505	Miles. 1,270½	Miles. 857	Miles. 444	Miles. 663½	Miles. 171½	Miles. 547	I am obliged to omit the South Indian, as the Revenue Returns of this line do not separate the Goods Train miles from the Passenger.	Miles. 424½	Miles. 5,807
(1.) Receipts from passenger traffic.	£ 1,024,635	£ 557,597	£ 240,276	£ 212,693	£ 355,309	£ 136,806	£ 171,150		£ 40,947	£ 2,748,363
(2.) Passenger train miles run	No. 2,699,915	No. 1,875,568	No. 995,354	No. 547,698	No. 1,096,437	No. 382,283	No. 582,878		No. 264,379	No. 8,394,412
(3.) Average passenger train mile receipts.	*s. d.* 7 7	*s. d.* 5 11½	*s. d.* 4 10	*s. d.* 7 9½	*s. d.* 6 5½	*s. d.* 8 2½	*s. d.* 5 10½		*s. d.* 3 9½	*s. d.* 6 6½
(4.) Number of passengers carried one mile.	No. 658,543,599	No. 356,929,000	No. 178,866,000	No. 157,962,600	No. 284,247,200	No. 86,176,800	No. 171,150,000		No. 46,351,878	No. 1,939,807,077
(5.) Average sum received for carrying a passenger one mile.	*d.* ·373	*d.* ·375	*d.* ·3224	*d.* ·325	*d.* ·3	*d.* ·381	*d.* ·24		*d.* ·257	*d.* ·34
(6.) Average number of passengers in a train at any one time.	No. 244	No. 190	No. 180	No. 287	No. 259	No. 259	No. 294		No. 176	No. 231
(7.) Average number of passenger trains per diem each way, supposing each train to traverse the whole line open.	No. 2·46	No. 2·02	No. 1·6	No. 1·7	No. 2·26	No. 2·62	No. 1·46		No. 1·7	No. 1·65
(8.) Average number of passengers passing over each mile of line daily (both ways).	No. 1,199	No. 768	No. 572	No. 970	No. 1,174	No. 1,372	No. 857		No. 599	No. 903
(9.) Total working expenses for both goods and passengers, deducting telegraph, special and miscellaneous receipts from them.	£ 1,125,488	£ 1,307,733	£ 390,117	£ 287,201	£ 492,281	£ 156,193	£ 200,132		£ 106,453	£ 4,065,578
(10.) Average cost of running a train mile, passenger and goods miles assumed to cost the same.	*s. d.* 2 8½	*s. d.* 4 3½	*s. d.* 3 9½	*s. d.* 4 5½	*s. d.* 3 10½	*s. d.* 4 8	*s. d.* 3 1½		*s. d.* 2 0½	*s. d.* 3 6
(11.) Average cost of carrying a passenger one mile.	*d.* ·135	*d.* ·27	*d.* ·25	*d.* ·186	*d.* ·18	*d.* ·216	*d.* ·127		*d.* ·188	*d.* ·182

(*b*) Goods Traffic.

Average length open, miles	Miles. 1,505	Miles. 1,270½	Miles. 857	Miles. 444	Miles. 663½	Miles. 171½	Miles. 547		Miles. 424½	Miles. 5,807
(1.) Receipts from goods traffic	£ 2,766,603	£ 1,685,457	£ 340,064	£ 422,210	£ 583,486	£ 228,883	£ 312,294		£ 144,419	£ 6,383,416
(2.) Goods train miles run	No. 5,535,690	No. 4,245,835	No. 1,076,187	No. 744,449	No. 1,430,651	No. 337,967	No. 701,570		No. 504,812	No. 14,600,111
(3.) Average goods train mile receipts.	*s. d.* 10 0	*s. d.* 7 11½	*s. d.* 6 3½	*s. d.* 11 3½	*s. d.* —	*s. d.* 13 7	*s. d.* 6 0½		*s. d.* 5 8½	*s. d.* 8 8½
(4.) Tons of goods carried one mile.	Tons. 782,760,719	Tons. 371,791,785	Tons. 76,995,600	Tons. 90,136,480	Tons. 121,876,000	Tons. 42,218,500	Tons. 64,532,500		Tons. 26,457,718	Tons. 1,577,029,282
(5.) Average sum received for carrying one ton one mile.	*d.* ·848	*d.* 1·088	*d.* 1·06	*d.* 1·102	*d.* 1·148	*d.* 1·29	*d.* ·79		*d.* 1·31	*d.* ·971
(6.) Average number of tons in a goods train at one time.	Tons. 141·5	Tons. 88	Tons. 71·4	Tons. 121	Tons. 84	Tons. 126	Tons. 92		Tons. 52·4	Tons. 108
(7.) Average number of goods trains per diem each way, supposing each train to run over the whole line open.	No. 5·04	No. 4·58	No. 1·72	No. 2·3	No. 3	No. 2·68	No. 1·75	*See* above.	No. 3·25	No. 3·4
(8.) Average number of tons of goods passing over each mile of line daily (both ways).	Tons. 1,425	Tons. 805	Tons 246	Tons. 556	Tons. 504	Tons. 677	Tons. 323		Tons. 341	Tons. 734
(9.) Total working expenses for both goods and passengers, deducting from them telegraph, special and miscellaneous receipts, and demurrage on goods.	£ 1,125,488	£ 1,307,733	£ 390,117	£ 287,201	£ 492,281	£ 156,193	£ 200,132		£ 106,453	£ 4,065,578
(10.) Average cost per train mile, goods and passenger miles assumed to cost the same.	*s. d.* 2 8½	*s. d.* 4 3½	*s. d.* 3 9½	*s. d.* 4 5½	*s. d.* 3 10½	*s. d.* 4 8	*s. d.* 3 1½		*s. d.* 2 0½	*s. d.* 3 6
(11.) Average cost of carrying a ton of goods one mile.	*d.* ·232	*d.* ·582	*d.* ·633	*d.* ·442	*d.* ·55	*d.* ·445	*d.* ·407		*d.* ·654	*d.* ·389

The lowest cost per train mile will be found on the East Indian (2*s.* 8¾*d.*). But, if we take the cost of coal into account, the narrow gauge, Rajputana, is lower (2*s.* 9¼*d.*), and the Oudh line is not much higher (3*s.* 1½*d.*).

The highest cost per train mile is found on the Eastern Bengal (4*s.* 8*d.*), although the cost of coal on this line *at the point of consumption* is less than on any other.

The lowest cost per passenger mile is found on the Oudh line (·127*d.*), the result of low train mile cost, and high average passenger loads (294 persons) in which latter respect it stands first.

The highest cost per passenger mile is found on the Great Indian Peninsula (·27*d.*), the result of high train mile cost (4*s.* 3¼*d.*) and bad average loads (only 190 persons).

The lowest cost per goods ton mile is found on the East Indian (·232*d.*), the result of low train mile cost, and high average train loads (141½ tons). No line approaches this average goods train load.

The lowest charges for both passengers and goods are found on the Oudh line, averaging only ·24*d.* per passenger per mile and ·79*d.* per ton of goods per mile.

The highest average charge for passengers is found on the Eastern Bengal (·381*d.*).

The highest average charges per ton of goods are found on the Rajputana and Eastern Bengal (1·31*d.* and 1·29*d.* respectively).

Taking all the lines together, it may be said that, on the 5,887 miles they include, the cost per train mile averages about 3*s.* 6*d.*, the charge per passenger about ⅓rd of a penny per mile, the charge for goods about a penny per ton per mile, the cost of carrying passengers rather less than ⅕th of a penny per mile, and the cost of carrying goods rather less than ⅔ths of a penny per ton per mile, whilst the average loads carried by the trains are equivalent to 231 persons in passenger trains and 108 tons of goods in goods trains.

STATEMENT shewing the QUANTITIES of the principal Articles of MERCHANDISE, &c., carried on the INDIAN GUARANTEED RAILWAYS in 1878 and 1879.

Articles.	Bombay, Baroda and Central India.		Eastern Bengal.		East Indian, Main Line.		East Indian, Jabalpur Line.		Great Indian Peninsula.		Madras.		Oudh and Rohilkund.		Sind, Punjab and Delhi.		South Indian.	
	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	Included in "Piece Goods."		—	—	Included in "Piece Goods."		Included in "Piece Goods."		—	—	5,003	5,183	—	—	Included in "PieceGoods."		3,528	3,995
Coal	1,119	2,067	12,085	10,959	692,806	748,400	6,608	16,089	9,640	16,612	812	422	547	489	5,967	19,886	—	—
Cocoa-nuts	5,570	7,749	—	—	Included in "Dried Fruits."		Included in "Dried Fruits."		9,264	12,320	4,288	3,706	39	45	671	1,586	—	—
Coffee	18	24	—	—	—	—	—	—	548	610	5,348	6,264	—	—	57	57	—	—
Cotton	20,192	20,513	1,624	796	19,463	51,087	6,651	4,283	123,759	95,531	11,743	16,176	5,300	6,465	5,625	11,309	3,422	3,794
Dried Fruits	7,009	6,643	—	—	7,151	7,339	4,214	3,341	21,306	19,951	—	—	—	—	7,593	8,555	—	—
Firewood	10,950	11,428	—	—	6,897	9,154	6,363	10,110	35,914	35,768	12,745	13,785	5,591	6,719	18,627	19,609	—	—
Grain	151,591	126,720	24,698	11,765	266,980	321,925	88,518	154,526	459,109	426,385	156,907	124,672	307,484	217,212	257,675	199,627	126,543	114,515
Green Fruits and Vegetables	9,117	10,739	—	—	—	—	—	—	10,643	16,689	6,038	7,968	2,572	3,842	4,932	3,914	5,442	6,453
Gunny Bags	2,814	2,910	5,236	5,444	27,990	24,373	2,484	2,088	Bagging, &c. 11,512	8,752	4,369	4,264	9,869	5,323	6,928	7,255	—	—
Hides	1,691	1,482	4,480	6,227	30,633	33,968	2,314	3,024	6,764	7,723	10,841	10,996	4,780	4,933	6,337	7,381	2,415	1,933
Iron	Included in "Metals."		—	—	56,953	81,750	4,909	5,415	—	—	5,939	6,805	4,845	4,277	17,591	18,202	—	—
Jagree and Sugar	24,642	34,604	8,444	8,150	73,362	109,130	22,787	32,704	33,274	44,293	10,326	14,427	42,869	78,309	47,678	65,770	—	—
Jute	—	—	136,176	160,814	702	2,099	72	276	—	—	—	—	685	363	9	6	—	—
Metal and Hardware	6,426	6,026	1,259	1,451	—	—	—	—	23,225	19,481	—	—	704	1,209	3,332	3,409	—	—
Military Stores	1,397	1,320	356	901	16,380	19,350	1,726	2,300	8,959	8,286	4,209	2,461	3,771	3,265	16,781	43,642	—	—
Oil	2,601	2,871	—	—	7,540	4,944	382	277	8,040	8,219	4,045	6,709	993	717	2,335	2,643	3,572	6,388
Opium	1,241	430	15	25	11,832	6,931	35	62	2,915	4,043	—	—	970	1,109	70	82	—	—
Piece Goods	6,586	6,750	13,646	14,760	54,392	65,003	7,744	10,918	21,127	26,140	—	58	4,141	5,860	11,156	16,637	—	—
Rice	Included in "Grain."		44,414	30,479	222,776	176,948	5,471	10,088	—	—	45,510	62,305	26,487	37,758	8,847	16,413	—	—
Salt	54,879	66,578	20,430	34,276	165,775	189,532	10,795	16,029	98,297	105,659	48,912	48,018	49,503	51,374	32,583	37,091	16,993	18,428
Seeds	17,517	19,195	18,122	11,816	307,960	243,302	61,312	28,947	108,748	88,080	20,501	23,310	63,711	28,282	26,711	63,033	22,616	15,062
Silk	Included in "Piece Goods."		151	66	760	787	109	87	439	405	—	—	14	19	83	151	—	—
Tea	—	—	3,383	4,457	2,502	1,652	380	439	Included with "Coffee."		—	101	285	220	1,558	1,601	—	—
Timber	16,835	16,897	—	—	19,740	21,888	1,259	2,868	6,746	8,053	11,267	11,131	9,804	10,623	14,686	18,265	—	—
Tobacco	10,233	12,770	9,276	8,988	20,096	14,326	6,232	3,404	7,484	6,436	6,507	6,346	1,556	1,049	1,137	1,672	2,374	1,797
Turmeric	—		4,866	3,543	3,938	4,218	160	179	—	—	—	—	1,396	1,517	1,471	1,452	—	—
Twist	2,011	1,986	—	—	5,199	5,177	692	686	5,431	5,583	4,077	4,496	1,132	1,132	1,988	2,381	Granite Stones. 106,070	183,166
Wines, Spirits, &c.	506	708	591	686	6,441	6,128	535	377	2,976	2,687	3,120	3,101	2,141	2,239	2,186	2,284	—	—
Wool	1,926	1,727	—	—	—	—	—	—	391	488	—	—	62	91	5,606	8,627	—	—

STATEMENT shewing the QUANTITIES of the principal Articles of MERCHANDISE, &c., carried on INDIAN STATE RAILWAYS in 1878 and 1879.

Articles.	Calcutta and South-Eastern.		Dhond and Manmad.		Holkar and Sindia-Neemuch.		Indus Valley.		Muttra-Hathras.		Nalhati.		Northern Bengal.		Patna-Gya.		Punjab Northern.	
	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		Tons.	Tons.	Tons.
Cloth	2	5	5	60	114	253	Stationery, &c. 26	237	—	—	—	—	18	33		—	786	1,114
Coal	728	122	595	2,353	47	109	6	83	—	—	3,917	1,638	3,860	3,371		383	22	51
Cocoa-nuts	—	—	106	312	1,473	2,501	—	—	—	—	—	—	—	—		—	—	—
Coffee	—	—	—	—	1	—	Spice. 52	486	—	—	—	—	—	—		—	2	—
Cotton	—	—	3,050	4,140	1,618	2,330	100	665	394	1,241	77	170	43	10		153	100	158
Dried Fruits	—	—	346	689	1,106	1,551	567	2,473	222	322	41	87	—	—		75	2,557	2,406
Firewood	21,271	17,256	—	32	3,210	14,289	Drugs & Medicines. 23	388	—	—	—	—	—	—		—	197	336
Grain	1,307	1,512	3,075	26,919	34,954	26,299	12,226	37,427	11,460	12,078	2,285	2,600	6,336	9,438		2,834	24,080	76,980
Green Fruits and Vegetables	—	—	70	294	359	253	601	1,462	48	33	278	173	44	67		—	532	878
Gunny Bags	58	74	66	470	—	228	234	958	239	437	161	114	1,363	1,803		112	932	1,612
Hides	—	—	23	960	374	396	214	1,596	178	106	35	28	96	148		299	1,048	1,860
Iron	124	45	400	567	2,988	2,077	Dyes. 226	1,042	—	—	—	16	—	—	Not opened.	70	1,260	3,338
Jagree and Sugar	3	12	304	1,185	7,576	10,803	1,846	8,148	2,522	5,239	164	319	—	—		1,121	5,958	11,876
Jute	15	11	6	30	2	369	20	535	177	60	6	89	4,615	21,292		—	19	45
Metal and Hardware	27	11	278	343	702	1,229	256	2,005	204	420	353	336	1,400	4,457		88	297	445
Military Stores	—	—	138	242	1,167	645	4,476	13,180	—	—	—	—	185	255		—	3,013	3,624
Oil	7	4	—	457	1,149	1,905	265	722	613	269	38	28	153	315		20	259	665
Opium	—	—	—	1	2,822	4,112	Furniture. 171	273	—	—	6	3	16	14		303	—	—
Piece Goods	—	—	155	693	3,668	4,612	597	7,499	368	499	950	854	3,326	5,449		417	1,750	2,962
Rice	2,874	4,388	78	2,061	3,760	3,405	—	—	—	—	5,965	4,498	13,084	15,664		5,346	1,026	4,757
Salt	8	—	2,061	4,069	1,600	6,953	216	822	682	1,591	545	786	587	5,476		2,693	23,557	29,182
Seeds	2	5	204	692	1,854	3,832	179	11,743	2,604	4,341	768	988	189	361		1,365	2,393	1,819
Silk	—	—	—	41	5	5	Miscellaneous. 4,450	9,001	—	—	335	383	16	—		—	154	54
Tea	—	—	—	—	—	8	—	—	—	—	—	—	2,527	832		—	599	900
Timber	10	—	34	242	1,033	2,025	103	1,932	119	8	36	9	21	492		217	2,351	12,369
Tobacco	3	—	8	94	2,047	2,639	164	632	95	45	112	47	1,503	3,178		517	80	405
Turmeric	—	—	—	410	—	—	13	58	162	227	91	47	—	—		—	270	205
Twist	—	—	26	502	89	347	—	—	—	—	—	—	—	—		—	31	178
Wines, Spirits, &c.	2	1	11	90	429	266	223	1,617	33	89	32	41	373	431		21	1,873	2,433
Wool	—	—	—	32	5	—	328	3,119	42	80	—	—	—	—		—	130	178

STATEMENT shewing the QUANTITIES of the principal Articles of MERCHANDISE, &c., carried on INDIAN STATE RAILWAYS in 1878 and 1879—*cont.*

Articles.	Rajputana.		Rangoon and Irrawaddy Valley.		Sindia.		Tirhut.		Wardha Coal.		Western Rajputana.		Native States.					
													Amraoti.		Khamgaon.		Nizam's.	
	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.	1878.	1879.
	Tons.	Tons.	Tons	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Cloth	—	—	—	—	—	—	—	—	—	—		203	—	128	—	6	—	—
Coal	707	396	—	5	736	886	1,921	1,602	36,225	25,967		—	1,120	651	60	284	472	52
Cocoa-nuts	—	—	—	157	—	—	—	—	—	—		—	876	975	—	79	153	204
Coffee	—	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—	—
Cotton	2,686	8,731	80	5	36	22	95	501	2,805	1,176		22	19,911	10,737	19,037	11,899	122	250
Dried Fruits	1,380	2,604	—	—	42	114	404	151	261	214		353	1,639	2,008	74	225	878	1,317
Firewood	—	—	—	9	—	—	13	—	—	—		—	—	35	370	151	—	—
Grain	60,492	57,803	460	392	4,602	1,323	3,465	2,393	12,615	7,352		458	7,927	4,590	3,867	3,068	53,445	15,006
Green Fruits and Vegetables	—	—	992	1,395	—	—	—	—	—	83		—	225	78	—	22	859	744
Gunny Bags	2,183	2,397	—	37	14	23	641	711	253	—		—	531	344	691	259	—	58
Hides	957	811	122	59	30	34	1,163	2,244	—	—		24	—	116	—	14	1,228	1,157
Iron	—	—	587	249	—	—	437	501	—	—		—	—	676	—	493	—	—
Jagree and Sugar	23,372	37,946	727	727	457	664	1,156	235	190	147		702	985	779	457	448	1,384	1,361
Jute	279	288	—	—	39	19	56	14	—	—		26	—	101	—	4	—	34
Metal and Hardware	1,882	18,815	121	169	352	1,702	596	524	336	383		264	1,345	175	797	14	1,564	2,095
Military Stores	149	367	—	7	355	327	—	—	—	—		29	—	10	—	—	1,589	581
Oil	2,838	1,042	455	978	82	29	77	100	—	46		39	135	358	—	90	251	900
Opium	—	—	—	—	—	2	—	—	—	—		—	59	36	—	12	—	—
Piece Goods	3,034	3,289	546	447	174	221	2,835	4,105	—	283		—	693	721	—	135	560	1,630
Rice	—	—	41,159	28,678	—	—	10,572	7,659	—	527		—	—	1,620	—	554	—	—
Salt	86,004	121,363	348	655	81	682	5,100	6,899	4,700	4,298		230	4,261	3,301	2,832	2,015	15,806	14,998
Seeds	9,091	3,646	40	273	161	129	10,133	8,478	2,146	5,168		350	808	1,033	1,033	778	785	2,317
Silk	—	—	41	26	—	—	—	—	—	—		1	—	6	—	—	—	—
Tea	—	—	—	19	—	1	—	—	—	—		4	—	—	—	—	—	—
Timber	1,546	3,606	499	2,121	133	1,355	85	245	382	770		150	170	167	—	121	18,114	12,228
Tobacco	1,666	1,422	324	357	58	44	3,474	3,394	—	9		92	—	76	—	3	491	340
Turmeric	499	698	—	12	13	5	—	—	—	—		39	—	—	—	—	—	307
Twist	—	—	—	157	—	—	—	—	—	—		—	37	101	—	3	—	—
Wines, Spirits, &c.	205	233	358	414	70	61	208	274	—	9		39	—	51	—	15	380	608
Wool	505	638	—	20	6	17	—	—	—	—		194	—	10	—	—	—	15

The figures for the short section (35¾ miles) of this line which was open during a part of 1878 are included with those of the Rajputana line.

N.B.—The figures for 1878 in this and in the two preceding Statements, having been revised in India, differ in some cases from those given in last year's Report.

STATEMENTS relating to the PASSENGER and GOODS TRAFFIC and the GROSS

TABLE No. 1.—STATEMENT of TRAFFIC on the INDIAN

Railway.	Actual Number of Miles open on 31st December, and Average Number of Miles of Open Line during 1879.						Number of Miles of Sidings on 31st December 1879.	Passenger Traffic.						
	Double.		Single.		Total.			Number of Passengers (*exclusive of* Holders of Season and Periodical Tickets).						Number of Holders of Season and Periodical Tickets.
	Actual.	Average.	Actual.	Average.	Actual.	Average.		By First Class.	By Second Class.	By Intermediate Class.	By Third Class.	By Fourth or Coolie Class.	Total by all the Classes.	
GUARANTEED.														
Bombay, Baroda and Central India	23½	23½	398½	398½	421½	421½	75¼	21,082	142,215	—	Mail. 322,285 Ordinary. 4,880,302	—	5,365,884	7,471
Eastern Bengal	—	—	158½	158½	158½	158½	43	23,000½	46,373½	—	398,406	1,471,118½	1,938,898½	2,504
East Indian, Main Line	410½	410½	870½	870½	1,280¾	1,280¾	223	43,540	132,633½	563,341	6,852,274	—	7,591,802½	11,397½
East Indian, Jabalpur Line	—	—	223½	223½	223½	223½	22½	4,738	23,948	4,592½	305,531½	—	338,810	—
Great Indian Peninsula	325	325	950½	945½	*1,275½	*1,270½	215½	32,165	153,396½	—	450,829½	3,860,165	4,496,556	968½
Madras	42½	42½	814½	814½	857	857	94½	11,523½	52,063½	—	2,626,269	645,750	3,335,617	33
Oudh and Rohilkund	—	—	546¾	546¾	546¾	546¾	70¾	Upper 19,422	—	—	Lower 2,790,401½	—	2,809,823½	—
Sind, Punjab and Delhi	4½	4½	659	659	663½	663½	108½	20,452	86,706¼	19,505½	3,462,034	—	3,588,878	—
South Indian	—	—	633	614½	633	614½	54	17,232	109,927	—	5,087,643	—	5,214,802	2
Totals and averages for Guaranteed Railways	805½	805½	5,255	5,231	6,060½	6,036½	976½	193,169	747,364½	587,529	27,175,975½	5,977,033½	34,681,071½	22,605
STATE.														
Calcutta and South-Eastern	—	—	28	28	28	28	6¾	411	3,387½	—	608,989	—	613,387½	—
Dhond and Manmad	—	—	145½	118	145½	118	12½	752½	4,428	—	—	168,241	173,421½	—
Holkar and Sindia-Neemuch	—	—	172	171½	172	171½	18½	2,805	11,359	—	36,063	758,069	808,236	51
Indus Valley†	—	—	500	500	500	500	36	2,253	14,067	—	815,298	—	831,618	—
Muttra-Hathras	—	—	29	29	29	29	3½	—	1,054	1,091	312,617	—	314,762	—
Nalhati	—	—	27½	27½	27½	27½	1½	912½	6,939½	—	149,048	—	156,900	—
Northern Bengal	—	—	242½	225½	242½	225½	25½	2,840½	6,646½	—	632,749½	—	642,236½	—
Patna-Gya	—	—	57	52½	57	52½	6½	536	1,968½	—	264,615	—	267,119½	—
Punjab Northern	—	—	103½	103½	103½	103½	12¾	4,063	21,579	—	1,073,677	—	1,099,319	—
Rajputana	3	3	459	434½	462	437½	53½	5,259	16,880	—	1,362,426	—	1,384,57+	—
Rangoon and Irrawaddy Valley	—	—	163	161	163	161	20½	3,290½	27,563	—	1,001,783½	—	1,032,637	—
Sindia	—	—	67	37½	67	37½	3½	920	2,893	—	157,069	—	160,882	—
Tirhut	—	—	82	82	82	82	12½	3,087½	2,899	—	462,515	—	468,501½	—
Wardha Coal	—	—	46½	46	46½	46	6	192	483	—	2,045	67,747½	70,467½	—
Western Rajputana	—	—	82½	82½	82½	82½	7½	70	787	—	50,402	—	51,259	—
NATIVE STATES.														
Amraoti	—	—	6	5½	6	5½	—	784	2,728	—	85,190	22,100½	90,802½	—
Khamgaon	—	—	8	7½	8	7½	½	425	703	—	2,886	32,767½	36,781½	—
Nizam's	—	—	121	120½	121	120½	9	2,485½	9,567½	—	16,050½	232,299	260,431½	—
Totals and averages for State Railways	3	3	2,330½	2,232½	2,342½	2,235½	241½	31,087	136,561½	1,091	7,013,432½	1,281,224½	8,463,396½	31
Indus Steam Flotilla	—	—	—	—	—	—	—	12	8	—	120½	—	140½	—
Totals and averages for all Railways and Flotilla	808½	808½	7,594½	7,463½	8,402½	8,271½	1,218	224,268	883,934	588,620	34,189,528½	7,258,258	43,144,608½	22,657

* Mopani branch (12½ miles in length) treated as a siding.

† In this and the three following tables the figures relating to the Indus Valley Railway are stated in the Return from India regarding this line to be "partly estimated." The *actual* results of the line for the year 1879 are shewn in the Revenue Statement on page 31.

RECEIPTS and EXPENSES for the Year ended 31st December 1879.

RAILWAYS during the Year ended 31st December 1879.

Number of Live Stock.	Goods Traffic. Number of Tons of Minerals. Number of Tons of Coal and Coke.	Number of Tons of all other Minerals.	Total Number of Tons of Minerals.	Number of Tons of General Merchandise. Of First or Lowest Class.	Of Second Class.	Of Third Class.	Of Fourth Class.	Of Fifth or Highest Class.	Special and Sundry.	Total of all Classes.	Railway.
											GUARANTEED.
232,359	{ 2,067 / 39,355* }	35,106†	77,028	123,688	44,047	27,070	971	861	317,488	514,725	Bombay, Baroda and Central India.
505	10,959	1,371	12,330	44,735	38,419	2,709	—	—	260,436	341,299	Eastern Bengal.
10,652	748,400	—	748,400	1,360,611	195,167	50,400	14,501	5,964	136,770	1,763,413	East Indian, Main Line.
154	16,089	—	16,089	289,699	24,483	8,997	1,103	329	12,130	336,746	East Indian, Jabalpur Line.
287,758	16,612	—	16,612	124,918	179,990	45,242	13,103	5,123	714,860	1,082,341	Great Indian Peninsula.
14,124	54	—	54	119,134	57,189	22,884	4,772	2,226	440,748	646,953	Madras.
754	489	—	489	{ Low 31,597 }	—	{ Middle 35,982 }	—	{ High 2,629 }	401,880	523,088	Oudh and Rohilkund.
33,779	19,937	—	19,937	117,043	127,798	31,122	16,371	2,496	563,055	857,885	Sind, Punjab and Delhi.
2,955	—	—	—	13,976	—	—	3,740	1,299	436,193	455,208	South Indian.
563,040	854,462	36,477	890,939	2,275,401	661,793	225,406	54,566	20,932	3,283,540	6,521,638	Totals and averages for Guaranteed Railways.
											STATE.
149	123	—	123	1,187	58	40	—	—	28,324	29,609	Calcutta and South-Eastern.
2,337	2,335	—	2,335	5,650	5,576	1,714	294	135	38,412	51,681	Dhond and Manmad.
—	109	—	109	87,190	4,748	*8,434	—	—	10,802	111,174	Holkar and Sindia-Neemuch.
9,530	792	—	792	29,614	18,000	8,020	453	949	177,776	234,812	Indus Valley.
—	—	—	—	571	24,097	6,009	—	—	—	30,677	Muttra-Hathras.
—	1,639	—	1,639	8,522	1,489	1,046	269	34	1,899	13,259	Nalhati.
19	2,115	—	2,115	17,109	21,180	4,441	—	—	42,993	85,723	Northern Bengal.
—	764	—	764	18,488	2,144	880	397	186	—	20,645	Patna-Gya.
31,109	—	—	—	161,397	9,707	7,563	—	—	62,620	241,287	Punjab Northern.
25	396	—	396	94,342	5,417	1,936	—	—	180,898	282,593	Rajputana.
6,198	5	—	5	9,731	3,442	760	—	—	33,964	47,897	Rangoon and Irrawaddy Valley.
—	885	—	885	4,655	914	302	3	1	7,244	13,119	Sindia.
—	1,603	—	1,603	18,997	2,857	992	—	—	28,654	50,600	Tirhut.
5	25,967	—	25,967	1,176	1,461	338	24	9	18,939	21,947	Wardha Coal.
—	—	—	—	2,769	509	147	—	—	2,185	5,590	Western Rajputana.
											NATIVE STATES.
—	651	—	651	12,729	3,761	1,702	103	108	12,065	30,468	Amraoti.
—	234	—	234	12,548	676	273	22	13	7,334	20,871	Khamgaon.
103	52	—	52	7,415	6,746	7,656	2,765	385	38,809	63,776	Nizam's.
49,615	37,720	—	37,720	491,090	112,782	52,253	4,830	1,775	692,898	1,355,128	Totals and averages for State Railways.
—	—	—	—	—	—	—	—	—	—	19,749	Indus Steam Flotilla.
612,655	892,182	36,477	928,659	2,766,491	774,575	277,659	58,396	22,707	3,976,438	7,896,515	Totals and averages for all Railways and Flotilla.

* On Company's account. † Company's own materials.

TABLE No. 2.—STATEMENT of TRAFFIC on the INDIAN RAILWAY

Railway.	Number of Engines and Vehicles used in conveying Traffic.													Number of Miles travelled in shunting, piloting,			
		Carriages.								Average Number of Vehicles in each Train.							
	Engines.	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth Class.	Composite.	Total Number.	Trucks, Horse Boxes, Brake Vans, &c.	Carriages in each Passenger Train.	Trucks in each Goods Train.	In each Mixed Passenger and Goods Train. Carriages.	In each Mixed Passenger and Goods Train. Trucks.	By Passenger (including Special and Troop) Trains.	By Goods (including Construction Materials for other Railways) Trains.	By Mineral Trains.	By Mixed Passenger and Goods Trains.
																	(P.) (G.)
GUARANTEED.																	
Bombay, Baroda and Central India	64	13	21	—	165	—	15	214	2,301	9½	45½	12	14½	386,808½	559,967½	—	161,300 186,482½
Eastern Bengal	35	18	6	—	40	53	16	133	342	15	40	8	27	235,962½	215,161½	—	96,320 121,905½
East Indian, Main Line	473	84	85	49	405	—	13	636	6,412	16½	30½	17½	5½	1,204,940½	4,341,153	237,346½	1,249,357 280,138½
East Indian, Jabalpur Line	55	8	14	4	30	—	4	60	881	16	27½	9½	14	179,034½	551,960½	—	86,533½ 75,049½
Great Indian Peninsula	422	33	157	—	388	60	92	730	8,112	15	27	12	9	1,530,735	3,998,459	—	344,773 247,326
Madras	109	26	54	—	200	37	33	350	3,503	11	22	6	15	715,372	356,614	—	279,982 721,573
Oudh and Rohilkund	88	Upper 31	—	—	Lower 206	—	11	248	2,248	22½	31½	12½	7½	15,098	480,203	—	569,780 221,367
Sind, Punjab and Delhi	116	38	36	24	213	—	23	334	2,964	14	29½	8½	10½	413,652½	1,188,103½	—	682,784½ 267,547½
South Indian	118	3 Royal Saloons 23	24	—	301	—	24	375	1,750	—	—	20½		—	—	—	1,161,153
Totals and averages for Guaranteed Railways	1,480	327	397	77	1,948	150	231	3,130	29,013	15	31½	9½	13	4,679,154	11,686,622	237,346½	3,470,879½ 2,121,331½ 1,161,153
STATE.																	
Calcutta and South-Eastern	4	—	—	—	41	—	3	44	161	15½	16½	*11½	15½	16,472	292	—	10,897 12,229
Bhind and Manmad	15	7 1 Saloon Tender	6	—	24	—	2	39	231	—	14	8	9	481	53,543½	—	47,254½ 45,076
Dhkar and Sindia-Veemuch	36	11	8	—	7	34	15	126	676	12	18	12	11	96,839	162,019	—	105,329 68,197
Indus Valley†	88	18	19	—	165	—	—	202	1,055	17	30	5	20	4,166	297,773	70,214	443,422 166,284
Mittra-Hathras	5	—	4	—§	17	—	4	25	61	—	—	7	5	—	—	—	27,908 15,752
Dhatti	2	2	1	—	6	—	—	9	22	5½	7½	6½	4½	163½	374	—	24,946 14,839
Northern Bengal	33	12	6	—	57	—	9	84	776	16½	29½	13½	8	1,450	172,725	—	198,119 114,616
Nya-Gya	2	—	—	—	10	—	2	12	55	21	14	11	7	2,218	6,785	—	24,501 15,826
Punjab Northern	21	3	3	—	43	—	2	51	282	17½	29	13½	7½	18,975	207,311	—	123,428 31,856
Rajputana	80	28	21	12	248	—	9	318	1,591	14½	18½	12½	6½	443,111	850,135	—	94,720 82,910
Rangoon and Irrawaddy Valley	31	1	2	—	113	—	10	126	609	21	31	17	21	118,192	14,611½	—	112,662 56,818
Sirhind	3	—	—	—	11	—	2	13	19	12	—	9½	10	315	—	—	32,704 17,016
Surat	10	7	3	—	28	—	1	39	250	6	23	10	5	1,907	8,084	—	70,212 44,498
Wardha Coal	3	1	—	—	3	4	2	10	60	—	13½	7	12½	270	9,225	—	10,131 18,039
Western Rajputana	25	3	3	—	12	—	—	18	—*	13	16	4	15	8,803	7,678	—	1,983 *6,038
NATIVE STATES.																	
Amraoti	1	—	—	—	6	—	2	8	1†	—	14	6	8	12	252	—	2,629 2,483
Gangaon	2	—	—	—	6	—	2	8	1†	—	—	4	5	16	—	—	3,603 3,645
Nizam's	9	5	9	—	—§	—§	18	32	93	—	18½	8½	10½	—	69,443	—	98,713 66,380
Totals and averages for State Railways	370	99	85	12	797	38	88	1,104	5,843	14½	19	9½	10	718,390½	1,860,256	70,214	1,433,171½ 777,407
Totals and averages for all Railways	1,850	426	482	89	2,745	238	314	4,234½	34,856	14½	25	9½	11½	5,392,544½	13,546,878	357,560½	4,904,051½ 2,898,823½ 1,161,153 8,964,032½

part of the "Rajputana" Railway Company's Wagon Stock is in use on this line.
With the exception that each of these Railways owns a Horse Box, the whole of the Wagon Stock in use on the respective lines is borrowed from the Great Indian
nsula Railway Company.
ee Note on page 46.
ee "Composite."

during the Year ended 31st December 1879—*continued.*

Trains (except assisting).			Number of Ton Miles (expressed in the Number of Tons moved One Mile).													Railway.
By Trains conveying Materials for Revenue Purposes.	Total Number of Train Miles.	Number of Train Miles per open Mile.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Goods Traffic.										Proportion of Up and Down Traffic.		
				Minerals.	General Merchandise.							Total of all Classes.	Total Mineral and General Merchandise.	Up.	Down.	
					First or Lowest Class.	Second Class.	Third Class.	Fourth Class.	Fifth Class.	Special and Sundry.						
	(T.)															GUARANTEED.
26,803	1,320,661½	2,974	542,386	10,597,841	21,372,885	8,450,605	6,166,168	188,647	219,920	49,707,594	86,105,819	96,703,660	33·85	66·15	Bombay, Baroda and Central India.
—	669,350	3,897	624,421	1,147,366	4,208,908	3,541,057	532,843	—	—	33,277,936	41,360,744	42,508,110	30·09	69·91	Eastern Bengal.
128,489½	7,491,417½	5,836·7	6,152,024	181,763,696	376,542,933	80,158,837	16,408,137	5,226,054	1,757,211	51,175,577	531,268,749	715,037,445	44·22	55·78	East Indian, Main Line.
3,275½	897,904	4,012·9	1,393,384	3,603,962	54,576,431	5,100,617	1,805,723	204,122	68,987	2,132,449	63,908,329	67,512,291	87·09	12·91	East Indian, Jabalpur Line.
—	6,121,243	4,775	3,115,581	2,887,764	35,888,326	55,970,439	12,862,886	3,663,183	1,743,805	253,242,574	368,371,213	371,258,977	70	30	Great Indian Peninsula.
—	2,073,541	2,417	1,246,561	5,079	18,733,119	9,553,550	3,845,931	960,212	431,191	42,910,472	76,434,475	76,439,554	57·63	42·37	Madras.
99,036	1,324,434	2,422·03	731,016	23,273	Low 10,083,969	—	Middle 4,408,476	—	High 375,740	49,437,257	64,355,542	64,383,816	62·03	37·97	Oudh and Rohilkund.
279,607½	2,826,695	4,260·8	1,359,348	5,226,100	23,778,073	22,115,134	4,957,720	2,599,301	441,500	57,423,230	111,319,958	116,548,058	57	43	Sind, Punjab and Delhi.
93,408	1,259,561	1,972	—	—	1,322,363	—	—	239,246	70,171	28,111,708	29,743,488	29,743,488	47·23	52·77	South Indian.
809,309½	28,975,856½	3,956·4	15,164,921	205,267,661	646,507,007	184,890,239	50,787,884	13,089,765	5,108,525	672,403,897	1,372,868,517	1,578,135,298	54·35	45·65	Totals and averages for Guaranteed Railways.
															STATE.
552	40,452	1,444	8,778	3,242	31,239	1,510	889	—	—	693,615	716,053	719,295	96·98	3·02	Calcutta and South Eastern.
32	146,387	1,240·5	34,732	87,905	502,244	287,714	102,305	18,697	14,193	3,819,794	4,744,947	4,832,352	81·99	18·01	Dhond and Manmad.
1,770	429,154	2,499	109,085	5,153	6,232,638	497,124	875,424	—	—	1,437,996	9,043,182	9,048,335	18·54	81·46	Holkar and Sindia-Neemuch.
—	281,859	1,332·8	569,618	104,536	6,147,191	4,218,967	1,829,436	140,054	78,359	35,618,117	48,071,124	48,175,660	47·4	52·6	Indus Valley.
138	43,708	1,510	8,873	—	14,630	292,679	83,292	—	—	—	390,601	390,601	59	41	Muttra-Hathras.
164½	40,487	1,485·7	9,374	41,844	178,338	38,187	27,727	7,118	907	43,144	295,421	337,265	78·74	21·26	Nalhati.
32,564	519,774	2,253	123,167	220,401	1,701,695	2,524,427	718,976	—	—	7,292,291	12,237,389	12,457,790	47·39	52·61	Northern Bengal.
—	19,330	945	13,242	35,229	693,655	98,441	41,778	15,758	4,968	—	854,600	889,829	42	58	Patna-Gya.
11,273	392,348	3,807·1	1,118,183	—	18,394,322	883,279	726,256	—	—	2,132,259	17,136,816	17,136,816	24·41	75·59	Punjab Northern.
—	1,470,876	3,362	750,519	39,388	13,536,524	904,734	374,668	—	—	28,952,744	43,768,670	43,828,058	48	52	Rajputana.
32,873	335,156½	2,981·7	168,574	213	1,210,108	383,752	91,861	—	—	2,814,862	4,505,588	4,505,796	38·09	61·91	Rangoon and Irrawaddy Valley.
—	50,035	1,325	53,223	30,941	135,618	31,115	9,762	110	15	223,891	403,511	434,452	89	11	Sindia.
4,638	120,334	1,577	40,277	77,043	725,370	130,839	47,233	—	—	1,160,585	2,073,027	2,150,070	43	57	Tirhut.
459	38,124	847	5,527	1,163,452	40,065	41,923	11,975	333	376	612,161	707,338	1,870,790	88	12	Wardhá Coal.
—	24,512	295·5	4,054	—	161,711	35,038	8,149	—	—	138,704	343,622	343,622	16·35	83·65	Western Rajputana.
															NATIVE STATES.
—	5,376	977·4	2,414	3,906	76,375	22,564	10,211	619	651	72,388	182,808	186,714	49·18	50·82	Amraoti.
—	7,264	964·8	1,314	2,274	100,385	5,406	2,185	190	143	58,673	166,972	169,246	63·08	36·91	Khamgaon.
—	234,541	1,947	140,156	3,248	851,461	751,021	913,844	333,790	46,402	4,034,824	6,931,348	6,934,596	24·82	75·18	Nizam's.
84,758½	4,939,287½	2,113·7	2,160,610	1,838,775	45,723,560	11,133,540	5,875,071	526,170	146,014	89,117,743	152,573,012	154,411,787	53·11	46·89	Totals and averages for State Railways.
894,128½	33,915,144	3,445·1	18,325,531	207,105,356	692,230,576	196,073,779	56,663,855	13,616,935	5,254,539	761,521,645	1,525,441,529	1,732,547,185	53·52	46·48	Totals and averages for all Railways.

TABLE No. 3.—GROSS RECEIPTS of the INDIAN RAILWAYS

Railway.	Passenger Traffic.													Receipts from Live Stock.	Receipts from	
	Receipts from Passengers.							Total Receipts from Excess Luggage, Parcels, Carriages, Horses, Dogs, &c. conveyed in Passenger Trains.	Receipts for Mail Service.	Receipts from Special Trains.	Receipts from Troop Trains.	Total Receipts from Passenger Traffic.	Passenger Receipts per Train Mile.		From Coal and Coke.	From other Minerals.
	First Class.	Second Class.	Intermediate Class.	Third Class.	Fourth or Coolie Class.	Holders of Season or Periodical Tickets.	Total Receipts from Passengers.									
GUARANTEED.	£	£	£	£	£	£	£	£	£	£	£	(P.) £	s.	£	£	£
Bombay, Baroda and Central India	5,240	10,225	—	Mail. 41,908 Ordinary. 132,934	—	4,463	194,779	14,182	165	105	3,462	212,693	7·77	13,072	1,475	*7,192
Eastern Bengal	4,456	3,976	—	30,921	72,550	1,276	113,179	22,925	468	152	—	136,724	8·23	51	3,203	121
East Indian, Main Line	36,981	44,508	37,080	688,798	—	4,582	813,099	79,956	3,443	3,936	25,779	926,213	7·54	7,706	438,742	—
East Indian, Jabalpur Line	6,072	5,814	2,061	58,922	—	—	72,869	9,453	977	821	14,502	98,422	7·41	128	7,624	—
Great Indian Peninsula	39,632	77,988	—	103,159	248,873	1,311	470,963	82,398	2,572	1,604	—	557,537	5·92	6,857	11,424	—
Madras	14,180	18,800	—	155,396	24,358	122	212,856	26,051	—	1,369	—	240,276	4·82	3,648	82	—
Oudh and Rohilkund	Upper 6,798	—	—	Lower 158,224	—	—	165,022	13,723	—	184	—	178,929	6·14	627	92	—
Sind, Punjab and Delhi	12,941	27,753	3,534	244,809	—	—	289,037	64,915	1,031	326	—	355,309	6·48	25,683	13,382	—
South Indian	3,360	6,639	—	173,920	—	5	183,933	·7,737	—	236	—	191,956	3·31	224	—	—
Totals and averages for Guaranteed Railways	129,678	196,503	43,525	1,788,901	345,781	12,059	2,515,537	321,390	8,656	8,733	43,743	2,898,059	6·40	57,995	476,024	7,226
STATE.																
Calcutta and South-Eastern	57	195	—	7,748	—	—	8,000	219	118	—	—	8,337	6·09	14	12	—
Dhond and Manmad	289	639	—	—	11,799	—	12,727	1,034	172	—	414	14,347	6·01	45	341	—
Holkar and Sindia-Neemuch	989	1,754	—	2,266	32,301	89	37,399	2,671	-648†	330	—	39,743	3·03	—	37	—
Indus Valley‡	1,824	4,322	—	57,717	—	—	63,863	12,273	3,846	474	—	80,456	3·59	4,056	683	—
Muttra-Hathras	—	202	52	8,201	—	—	8,455	309	128	22	—	8,914	6·39	—	—	—
Nalhati	213	507	—	4,826	—	—	5,546	400	128	—	—	6,068	4·85	—	258	—
Northern Bengal	2,902	2,409	—	34,705	—	—	40,016	2,052	1,085	148	—	44,201	4·43	9	906	—
Patna-Gya	232	367	—	15,913	—	—	16,512	384	49	—	—	16,945	12·68	—	173	—
Punjab Northern	1,823	2,716	—	45,378	—	—	49,917	11,198	1,193	—	7,005	69,313	9·73	6,023	—	—
Rajputana	1,565	2,337	—	81,421	—	—	85,323	6,234	1,719	75	—	93,351	3·47	16	410	—
Rangoon and Irrawaddy Valley	1,177	2,124	—	63,278	—	—	66,579	2,914	139	65	—	69,697	6·04	1,444	3	—
Sindia	109	205	—	5,089	—	—	5,411	649	85	20	—	6,165	3·73	—	229	—
Tirhut	1,033	587	—	17,947	—	—	19,567	1,151	280	226	—	21,224	5·39	—	458	—
Wardha Coal	45	53	—	120	2,137	—	2,361	216	275	—	—	2,852	5·42	1	5,263	—
Western Rajputana	21	98	—	1,876	—	—	1,995	175	17	—	—	2,187	4·05	—	—	—
NATIVE STATES.																
Amraoti	36	63	—	316	181	—	1,096	178	43	—	7	1,324	10·03	—	50	—
Khamgaon	27	22	—	52	357	—	458	57	45	2	—	562	3·11	—	9	—
Nizam's	1,345	1,937	—	2,474	17,824	—	23,580	3,474	—	1,772	1,209	30,035	6·08	3	18	—
Totals and averages for State Railways.	13,747	20,535	52	349,783	64,599	30	448,796	46,497	8,674	3,134	8,635	515,736	5·86	11,616	2,450	—
Indu Steam Flotilla	40	4	—	29	—	—	73	42	—	—	—	115	—	—	—	—
Totals and averages for all Railways and Flotilla	143,465	216,042	43,577	2,138,803	410,380	12,139	2,964,406	367,929	17,330	11,867	52,378	3,413,910	6·03	69,611	485,474	7,226

* From Company's own materials carried on Capital Account.

† Caused by the adjustment of certain outstandings.

‡ *See* Note on page 46.

during Year ended 31st December 1879.

Goods Traffic.																
Minerals.	Receipts from General Merchandise (*exclusive of* Live Stock and Minerals).									Total Receipts from Passenger and Goods Traffic.	Passenger and Goods Receipts per Train Mile.	Total Miscellaneous Receipts.	Miscellaneous Receipts per Train Mile.	Total Receipts from Passengers, Goods, and Miscellaneous.	Total Receipts per Train Mile.	Railway.
Total Receipts from Minerals.	From First or Lowest Class.	From Second Class.	From Third Class.	From Fourth Class.	From Fifth or Highest Class.	From Special and Sundry.	Total.	Total Receipts from Goods Traffic.	Goods Receipts per Train Mile.							
								(G.)		(P.)+(G.)		(M.)		(P.)+(G.)+(M.)		
£	£	£	£	£	£	£	£	£	s.	£	s.	£	s.	£	s.	GUARANTEED.
3,377	106,343	53,709	54,501	2,909	4,094	178,406	400,502	422,211	11·31	634,904	9·81	20,768	0·32	655,672	10·13	Bombay, Baroda and Central India.
3,327	17,056	27,607	4,155	—	—	176,087	225,505	228,383	13·58	365,607	10·02	7,093	0·22	372,700	11·14	Eastern Bengal.
438,742	1,111,764	498,609	142,312	50,607	23,002	260,524*	2,086,878	2,533,320	10·32	3,459,539	9·39	145,501	0·39	3,605,040	9·79	East Indian, Main Line.
7,624	106,383	32,749	15,035	2,200	904	19,654*	229,035	236,737	7·55	335,209	7·51	30,403	0·68	365,612	8·19	East Indian Jabalpur Line.
11,434	180,717	447,145	140,233	51,939	32,517	313,949	1,079,550	1,097,831	8·03	2,255,368	7·44	59,061	0·23	2,314,429	7·67	Great Indian Peninsula.
82	83,279	58,251	29,547	10,707	5,014	149,439	337,240	340,970	6·32	581,246	5·60	26,182	0·25	607,428	5·85	Madras.
92	Low 36,071	—	Middle 33,439	—	High 5,365	136,922	212,447	213,166	6·07	392,095	6·10	42,389	0·66	434,484	6·76	Oudh and Rohilkund.
13,332	108,608	149,352	43,748	31,002	5,983	207,486	546,079	535,143	8·07	940,452	7·38	64,748	0·51	1,005,200	7·89	Sind, Punjab and Delhi.
—	7,826	—	—	2,820	1,858	112,774	125,278	125,502	2·16	317,458	5·47	4,740	0·08	322,198	5·53	South Indian.
488,250	1,824,547	1,267,985	463,030	152,184	87,337	2,046,841	5,842,574	6,333,819	8·30	9,231,878	7·75	400,985	0·37	9,632,763	8·08	Totals and averages for Guaranteed Railways.
																STATE.
12	115	15	14	—	—	3,152	3,296	3,322	5·31	11,039	5·85	1,750	0·87	13,409	6·73	Calcutta and South-Eastern.
341	3,034	2,813	1,296	334	331	16,483	24,296	24,682	5·01	39,029	5·33	7,726	1·06	46,755	6·39	Dhond and Manmad.
37	46,102	4,840	12,193	—	—	7,543	70,687	70,724	6·23	110,467	5·17	3,746	0·15	114,213	5·32	Holkar and Sindia-Neemuch.
683	36,349	24,423	18,512	1,761	1,111	129,245	221,401	226,140	8·46	366,596	6·24	6,159	0·12	372,756	6·37	Indus Valley.
—	53	2,224	1,271	—	—	—	3,553	3,553	4·51	12,467	5·69	126	0·06	12,593	5·75	Mattra-Hathras.
258	1,220	437	439	190	42	237	2,604	2,862	3·76	8,945	4·44	233	0·12	9,178	4·56	Nalhati.
906	8,099	21,752	10,650	—	—	25,982	66,483	67,398	5·20	111,599	4·67	13,632	0·56	125,231	5·24	Northern Bengal.
173	3,375	732	410	192	74	45	4,828	5,001	6·15	21,946	8·89	1,105	0·45	23,051	9·34	Patna-Gya.
—	76,203	7,280	6,837	—	—	13,133	103,453	103,481	9·15	178,794	9·10	6,444	0·32	185,238	9·43	Punjab Northern.
410	86,053	8,897	4,455	—	—	146,943	249,948	250,374	5·37	343,725	4·67	10,816	0·15	354,541	4·82	Rajputana.
3	5,448	3,403	989	—	—	13,125	22,965	24,412	6·33	94,109	6·23	1,482	0·09	95,591	6·32	Rangoon and Irrawaddy Valley.
229	938	346	148	1	1	1,366	2,800	3,029	3·56	9,194	3·67	−103†	−0·04	9,091	3·63	Sindia.
458	5,704	1,560	733	—	—	6,411	14,408	14,866	5·65	36,090	5·59	2,364	0·37	38,454‡	5·95	Tirhut.
5,803	383	476	196	23	10	3,079	4,147	10,011	7·31	12,863	6·81	12,844§	6·80	25,707§	13·61	Wardha Coal.
—	1,230	375	115	—	—	515	2,235	2,235	3·26	4,422	3·62	358	0·29	4,780	3·91	Western Rajputana.
																NATIVE STATES.
50	2,426	780	391	30	43	1,000	5,579	5,629	41·16	6,953	25·86	37	0·14	6,990	26·00	Amraoti.
9	1,957	152	68	7	6	852	3,042	3,051	16·86	3,613	9·95	195	0·53	3,808	10·48	Khamgaon.
18	4,629	5,772	6,905	2,262	752	17,732	38,142	38,163	5·61	68,198	5·82	1,242	0·10	69,440	5·92	Nizam's.
9,450	286,903	96,300	65,742	4,809	2,370	337,743	843,367	864,933	6·55	1,390,969	7·09	70,157	0·67	1,450,826	5·87	Totals and averages for State Railways.
—	—	—	—	—	—	—	—	25,051	—	25,766	—	15,379	—	41,145	—	Indus Steam Flotilla.
498,700	2,111,450	1,364,285	529,422	156,993	89,707	2,384,584	6,686,441	7,224,403	8·58	10,648,313	7·80	486,421	0·37	11,174,734	7·72	Totals and averages for all Railways and Flotilla.

* Includes receipts on account of demurrage.
† Caused by the adjustment of certain outstandings.
‡ Excludes the earnings of the Steam Ferry worked in connection with this Railway, which amounted to 7,418.
§ Includes 9,191., being the receipts of the Warora Colliery from the date of its amalgamation with the Railway (1st July 1879).

TABLE No. 4.—EXPENDITURE ON REVENUE ACCOU

Railway.	Maintenance and Renewal of Way and Works.					Cost of producing Locomotive Power by Wages and Materials.			Repairs and Renewals of Carriages and Wagons.			Coaching and Merchandise.			Collection and Delivery of Goods.		
	Ordinary.	Special.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile	Per cent. of [illegible]
GUARANTEED.	£	£	£	d.		£	d.		£	d.		£	d.		£	d.	
Bombay, Baroda and Central India.	64,428	1,985	66,413	12·07	10·13	105,172	19·11	16·04	29,190	5·31	4·45	50,806	9·24	7·74	313	0·06	0·05
Eastern Bengal	33,295	—	33,295	11·94	8·93	39,210	14·06	10·52	18,130	6·50	4·86	42,145	15·11	11·31	—	—	—
East Indian, Main Line	364,879	—	364,879	11·89	10·12	272,367	8·88	7·56	108,699	3·54	3·02	224,550	7·32	6·23	—	—	—
„ Jabalpur Line	33,262	—	33,262	8·94	9·10	56,847	15·28	15·55	12,549	3·37	3·43	15,830	4·26	4·33	—	—	—
Great Indian Peninsula	362,780	13,820	376,600	14·80	16·27	480,840	18·81	21·20	150,064	5·83	6·48	201,456	7·92	8·67	310	0·00	0·02
Madras	90,337	29,474	120,361	13·93	19·82	146,377	16·94	24·10	33,606	3·90	5·53	62,892	7·28	10·35	2,529	0·29	0·42
Oudh and Rohilkund	50,795	—	50,795	9·20	11·69	82,229	14·90	18·93	25,044	4·54	5·76	52,233	9·46	12·02	100	0·02	0·02
Sind, Punjab and Delhi	80,966	55,438	136,404	11·58	13·57	197,317	16·75	19·63	45,335	3·85	4·51	84,036	7·13	8·36	1,122	0·09	0·11
South Indian	56,391	—	56,391	9·67	15·64	75,320	14·45	23·38	35,290	6·77	10·95	29,779	5·72	9·24	—	—	—
Totals and averages for Guaranteed Railways	1,131,683	100,717	1,232,400	11·55	12·80	1,455,679	15·46	17·43	457,947	4·84	5·44	763,727	8·16	8·70	4,374	0·09	0·11
STATE.																	
Calcutta and South-Eastern	3,215	60	2,275	13·50	16·97	2,605	15·46	19·43	1,030	6·11	7·68	1,234	7·33	9·20	—	—	—
Dhond and Manmad	8,694	1,376	10,070	16·50	21·57	17,037	27·93	36·44	931	1·53	1·99	8,553	14·02	18·29	—	—	—
Holkar and Sindia-Neemuch	17,270	—	17,270	9·66	15·12	30,141	16·86	26·39	12,860	7·19	11·26	14,293	7·99	12·51	—	—	—
Indus Valley*	40,030	—	40,030	11·98	15·67	82,235	20·11	26·29	16,293	3·97	5·18	50,017	12·44	16·28	—	—	—
Muttra-Hathras	1,393	—	1,393	7·06	11·06	2,130	11·71	16·91	233	1·28	1·85	1,263	6·94	10·03	187	1·04	1·48
Nalhati	1,148	—	1,148	6·81	12·51	1,854	10·99	20·20	898	5·32	9·78	882	5·23	9·61	—	—	—
Northern Bengal	29,211	—	29,211	13·49	23·32	31,076	14·35	24·81	4,108	1·92	3·33	21,898	10·11	17·49	—	—	—
Patna-Gya	2,673	—	2,673	13·00	11·59	2,439	11·87	10·58	451	2·19	1·96	2,471	12·02	10·72	—	—	—
Punjab Northern	11,642	6,524	18,166	11·09	9·80	51,054	31·09	27·56	4,502	2·75	2·43	18,598	11·36	10·04	—	—	—
Rajputana	47,416	—	47,416	7·74	13·37	108,815	17·76	30·69	18,375	3·00	5·18	33,758	5·52	9·52	—	—	—
Rangoon and Irrawaddy Valley.	26,599	—	26,599	19·04	27·83	24,290	17·40	25·41	3,305	2·37	3·46	18,854	9·92	14·49	98	0·07	0·10
Sindia	3,571	—	3,571	17·12	39·28	3,007	14·41	33·08	160	0·76	1·76	1,451	6·95	15·96	—	—	—
Tirhut	5,269	1,600	6,869	12·75	17·86	7,245	13·44	18·84	1,706	3·16	4·44	5,218	9·68	13·57	—	—	—
Wardha Coal	2,705	—	2,705	17·01	10·50	2,635	16·54	10·32	584	3·62	2·31	2,531	15·91	9·83	—	—	—
Western Rajputana	—	—	—†	—	—	2,180	21·43	45·6	144	1·41	3·01	791	7·77	16·5	—	—	—
NATIVE STATES.																	
Amraoti	290	—	290	12·87	4·15	875	30·06	12·52	13	0·58	0·19	1,420	63·39	20·31	—	—	—
Khamgaon	429	—	429	14·17	11·27	842	27·82	22·11	9	0·30	0·23	852	27·49	21·85	—	—	—
Nizam's	12,035	—	12,035	12·31	17·33	22,751	23·28	32·77	1,046	1·08	1·50	9,306	9·52	13·40	—	—	—
Totals and averages for State Railways	221,590	9,560	231,150	12·74	16·42	393,211	19·53	24·44	65,618	2·69	3·89	189,270	13·53	13·31	285	0·55	0·71
Indus Steam Flotilla	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total and averages for all Railways and Flotilla	1,353,273	110,277	1,463,550	12·33	15·21	1,848,890	18·17	22·10	524,565	3·41	4·35	952,997	11·74	11·77	4,659	0·22	0·28

* *See* Note on page 46.

† Not stated in the Returns from India.

during Year ended 31st December 1879.

Rates and Taxes.			Compensation for Personal Injury, &c., Damage and Loss of Goods.					Legal and Parliamentary Expenses.			Miscellaneous Working Expenditure, not included in the foregoing.			Total Working Expenditure.			Railway.
Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Personal.	Goods.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	Gross.	Per Train Mile.	Per cent. of Gross Receipts.	
£	d.		£	£	£	d.		£	d.		£	d.		£	s.		GUARANTEED.
743	0·14	0·12	—	333	332	0·06	0·05	421	0·07	0·06	54,600	9·91	8·33	307,990	4·60	46·97	Bombay, Baroda and Central India.
1,973	0·38	0·29	—	1,319	1,319	0·47	0·35	210	0·08	0·07	54,404	19·50	14·60	189,786	5·67	50·92	Eastern Bengal.
5,449	0·18	0·15	—	2,275	2,275	0·07	0·06	4,834	0·16	0·13	165,486	5·39	4·69	1,148,539	3·13	31·86	East Indian.. Main Line.
*11	0·00	0·00	—	178	178	0·05	0·05	324	0·09	0·09	37,361	10·05	10·22	156,362	3·50	42·77	Ditto, Jabalpur Line.
1,211	0·03	0·05	—	11,424	11,424	0·49	1·01	3,714	0·11	0·27	154,611	6·12	6·70	1,330,290	4·52	59·69	Great Indian Peninsula.
1,427	0·16	0·23	26	5,049	5,075	0·59	0·83	1,159	0·13	0·19	43,778	5·07	7·21	417,204	4·02	68·68	Madras.
89	0·01	0·02	—	559	559	0·01	0·13	253	0·05	0·06	41,189	7·46	9·48	252,491	3·81	58·11	Oudh and Rohilkund.
226	0·01	0·02	—	1,695	1,695	0·14	0·16	329	0·02	0·03	92,170	7·82	9·16	558,684	3·95	55·58	Sind, Punjab and Delhi.
854	0·16	0·26	3	349	352	0·07	0·11	104	0·02	0·03	28,223	5·42	8·76	220,303	3·52	65·37	South Indian.
11,143	0·12	0·13	29	23,180	23,209	0·23	0·30	11,548	0·08	0·10	671,822	8·53	8·78	4,631,549	3·86	47·83	Totals and averages for Guaranteed Railways
																	STATE.
72	0·43	0·54	—	—	—	—	—	—	—	—	1,693	10·05	12·62	8,909	4·40	66·44	Calcutta and South-Eastern.
—	—	—	1	169	170	0·28	0·36	—	—	—	12,761	20·92	27·29	49,532	6·76	105·91	Dhond and Manmad.
—	—	—	—	292	292	0·16	0·26	—	—	—	11,081	6·53	10·23	86,537	4·03	75·77	Holkar and Sindia-Neemuch.
—	—	—	—	5,456	5,456	1·33	1·75	—	—	—	49,612	12·12	15·86	253,453	5·21	81·03	Indus Valley.
—	—	—	—	30	30	0·16	0·24	1	0·05	0·08	1,685	9·26	13·38	6,922	3·17	54·97	Muttra-Hathras.
9	0·25	0·10	—	1	1	0·01	0·02	22	0·13	0·23	1,383	8·20	15·07	6,197	3·06	67·52	Nalhati.
29	0·01	0·02	—	424	424	0·20	0·34	10	0·01	0·02	28,316	13·07	22·61	115,132	4·43	91·93	Northern Bengal.
—	—	—	—	2	2	0·01	0·01	—	—	—	4,836	23·53	20·98	12,872	5·22	55·84	Patna-Gya.
—	—	—	—	783	783	0·47	0·42	—	—	—	53,076	32·42	28·65	146,179	7·44	78·91	Punjab Northern.
—	—	—	—	38	38	0·01	0·02	—	—	—	28,223	4·61	7·26	236,625	3·23	66·73	Rajputana.
594	0·45	0·62	—	86	86	0·06	0·09	6	0·00	0·00	12,585	9·01	13·17	81,417	4·85	85·17	Rangoon and Irrawaddy Valley.
—	—	—	—	—	—	—	—	—	—	—	4,081	19·56	44·89	12,270	4·90	134·97	Sindia.
36	0·07	0·09	—	114	114	0·21	0·30	23	0·04	0·06	7,440	13·81	19·35	28,651‡	4·43	74·51	Tirhut.
—	—	—	—	—	—	—	—	—	—	—	16,279§	31·62	63·31	24,734§	7·07	96·23	Wardha Coal.
—	—	—	—	—	—	—	—	—	—	—	672	6·66	14·05	3,787	3·19	79·21	Western Rajputana.
																	NATIVE STATES.
—	—	—	12	—	12	0·54	0·17	—	—	—	2,703	123·35	39·53	5,373	19·99	76·87	Amraoti.
—	—	—	—	—	—	—	—	—	—	—	1,723	56·93	45·25	3,835	10·56	100·71	Khamgaon.
—	—	—	45	172	217	0·22	0·31	—	—	—	15,091	15·44	21·73	60,446	5·15	87·04	Nizam's.
740	0·23	0·27	58	7,567	7,625	0·28	0·33	62	0·04	0·07	253,900	23·17	24·21	1,142,361	4·62	78·77	Totals and averages for State Railways.
—	—	—	—	—	—	—	—	—	—	—	—	—	—	71,446	—	173·64	Indus Steam Flotilla.
11,883	0·16	0·18	87	30,747	30,834	0·26	0·31	11,610	0·06	0·08	925,722	17·69	19·06	5,845,356	4·04	52·31	Totals and averages for all Railways and Flotilla.

‡ Excludes the cost of working the Company's Steam Ferry, namely 6,440*l.*
§ Includes 11,251*l.*, being the expenditure on account of the Warora Colliery from the date of its amalgamation with the Railway (1st July 1879).

SUMMARY.

Progress of the Indian railway system in 1879.

91. The length of the whole railway system of India now open for traffic is 8,611 miles, of which 6,073 miles are in the hands of Guaranteed Companies, 2,363 miles are State, and 175 are Native State lines: 6,693 miles are constructed on the 5 ft. 6 in. gauge, and 1,918 on a narrower gauge. During the past year 395 miles (including the Kandahar line) of new railway have been opened for traffic. The railway system is not now terminated by the frontier. A line has been taken from Sukkur on the Indus as far as Sibi, a distance of 133½ miles, in the direction of Kandahar. Its further extension to a place about 12 miles from Quetta is now being carried on, but operations beyond this point to Kandahar are confined to surveys. On the North-West Frontier energetic measures have been taken to continue the Punjab Northern Railway to Peshawur across the Indus at Attock. The bridge which is in course of construction at this place will consist of five spans, two of 314 feet and three of 264 feet each. It is expected that the line will be so far advanced as to be ready for use up to the left bank of the Indus in November, and from the right bank to Peshawur in January next. Turning to Central India, the remaining link in the railway communication between Delhi and Bombay by way of Ajmere will be finished in the course of the present year. The Rajputana State line will then be open for traffic throughout. Eighty-two miles of the lower portion between Pahlunpoor and Ahmedabad, where the narrow and the broad gauge systems meet, were opened in November last. The other part of the Rajputana and Central Indian system connecting Ajmere with Indore and the Great Indian Peninsula Railway will probably be opened in the course of 1881. With the exception of a gap of 50 miles it is expected to be opened on the 1st January next.

Frontier railways.

Benares-Ganges Bridge.

The bridge over the Ganges at Benares has been undertaken as part of the system of the Oudh and Rohilkund Company, and will be commenced forthwith. It will be the largest work of the kind in India, and is to consist of seven spans of 416 feet, the pier foundations being formed of a solid block of masonry 65 feet long by 28 feet wide.

Revenue.

92. The net revenue derived from all railways in India during the year 1879 amounted to 5,372,596*l.* That from the Guaranteed lines was 5,062,188*l.* compared with 5,002,028*l.* of the previous year. The guaranteed interest paid by the Government was covered, leaving a balance in favour of Revenue of 313,955*l.* The net receipts of the State lines amounted to 310,408*l.* compared with 200,374*l.* of the year 1878. The gross receipts of the Guaranteed lines were 9,765,284*l.*, and the expenses 4,703,096*l.* On the State lines the gross receipts were 1,465,824*l.*, and the expenses 1,155,416*l.*, shewing an average proportion of net receipts to expenditure on the Guaranteed lines of 51 and on the State lines of 22 per cent. In making these comparisons it must be observed that the State railways are for the most part either political lines recently opened, or small branches with little traffic on them and expensive to work, but serviceable as feeders to the main lines. The Rajputana line, running south from Agra and Delhi may be regarded as an exception to this description. The total net earnings divided over the total capital outlay, both Guaranteed and State, yielded a return at the rate of 4*l.* 7*s.* per cent. per annum. The Guaranteed lines earned at the rate of 5*l.* 4*s.* per cent. per annum.

Capital.

93. The capital expended on the Indian railways up to the end of the official year was 123,124,514*l.* Of this 97,327,851*l.* had been expended on Guaranteed lines, 24,403,797*l.* on State lines, and 1,392,866*l.* on lines in Native States. The capital expenditure during the period covered by this Report (14 months in the case of the State Railways, 9 months in that of the East Indian Railway, and 12 months in that of the other guaranteed lines) was 5,388,772*l.*, being 883,185*l.* on Guaranteed and 4,505,587*l.* on State lines.

Stock-holders.

94. The capital representing the guaranteed undertakings is now made up of 58,353,477*l.* of guaranteed stock, 4,751,450*l.* of debentures, 3,922,458*l.* of debenture stock, and 52,203*l.* of money not bearing interest. The East Indian Railway Company's capital was converted into an annuity of 1,473,750*l.* for 73 years; 230,217*l.* of which was exchanged for 5,115,938*l.* 15*s.* Four per cent. Government Sterling Stock and Rs. 1,06,750 Four per cent. Rupee Stock. The stock and debentures above mentioned were held, on the 31st December last, by 63,290 persons, of whom 59,084 stockholders were registered in England and 301 in India; the number of debenture holders was 3,905.

95. The number of passengers increased from 38,489,586 in the year 1878 to 43,144,468 last year. The proportion per cent. of first-class was ·519, of second 2·049, and of the lowest classes 97·432. Passenger traffic.

96. The aggregate quantity of goods carried on all the lines amounted to 7,876,766 tons, as compared with 7,296,335 of the previous year. The amount received for the conveyance of the same was 7,248,752*l.*, compared with 6,734,059*l.* in 1878. The chief articles carried were cotton, grain, rice, piece goods, military stores, salt, seeds, tobacco and opium. Goods traffic.

97. The expenses of working and maintenance during the year amounted to 5,774,510*l.*, compared with 5,101,335*l.* of the previous year. The cost of maintenance was 1,463,550*l.*, and of working 4,310,960*l.*

98. The rolling stock employed in working the railways consisted of 1,850 locomotives, 4,294 passenger carriages, and 34,856 trucks. The total train mileage during the year was 28,915,144, compared with 26,570,395 of 1878. The passenger train mileage was 5,392,544, the goods 13,546,878, the minerals 357,561, and the mixed goods and passengers 8,964,032.

99. The goods shipped to India from this country for the use of the railways amounted during the year to 207,743 tons, of the value of 1,578,404*l.*, the freight and insurance of which was 315,181*l.* Besides this, 143,279 tons of coal, 1,988 chaldrons of coke, and 8,393 tons of patent fuel were sent out. The total quantity of coal consumed on the railways was 512,858 tons, of which 362,762 tons were obtained from collieries in India. The cost of all this coal was 662,589*l.*, that from Indian sources varying at the point of delivery from 7*s.* 4*d.* on the East Indian and 16*s.* 1*d.* on the Eastern Bengal (these lines being near the Bengal coal fields) to 41*s.* on the Rajputana, and 60*s.* per ton on the Indus Valley lines, that from England being 30*s.* 10*d.* per ton on the Great Indian Peninsula, 34*s.* 8*d.* on the Bombay, Baroda and Central India, 32*s.* 7*d.* on the South Indian, and 36*s.* 9*d.* on the Madras lines. Shipments.

100. The number of persons employed in keeping the lines in order and in working the traffic was 148,720. This large staff is composed of Europeans, East Indians, and Natives. The last are 95·12 per cent. of the whole, the East Indians 2·34, and the Europeans 2·54. The actual number of Europeans was 3,781, and of East Indians 3,481. Many of the men are married, and the question as to how their children are to be brought up and educated is engaging the attention of the Government and the Companies. Schools are provided in many places along the lines of railway, but endeavours are being made to devise a scheme by which children shall receive instruction at certain hill stations where the climate would be more favourable for their health. Employés.

101. Several serious accidents occurred during the year. The most disastrous was one on the Madras Railway, when 22 passengers were killed and 46 were injured. It was caused by a slip in an embankment shortly before a train passed over it. Another accident on the Rajputana line arose from a similar cause. On this occasion 8 Native passengers and the guard were killed. The total number of passengers who lost their lives during the year from causes beyond their control was 30, being ·7 per million of those who travelled, and the number injured in like manner was 69; while 18 were killed and 67 were injured from "their own misconduct or incaution." Accidents.

102. The result of the year's operations may, upon the whole, be regarded as satisfactory. Fair progress has been made in the execution of new and valuable lines of communication, and, notwithstanding the state of trade, the traffic, taken in the aggregate, shews an improvement. The return upon the large capital outlay which has been incurred is increasing year by year as the lines are completed and the traffic is developed. If sound and economical principles are applied to their management, not only will the moral and material well being of the country be advanced, but a fertile source of revenue will be secured to the State. Results.

I have the honour to be,
My Lord Marquis,
Your Lordship's very obedient humble Servant,
JULAND DANVERS.

APPENDICES.

No. I.

CONTRACT between the Secretary of State in Council of India and the East Indian Railway Company, 22nd December 1879.

This Indenture, made the Twenty-second day of December 1879, between the Secretary of State in Council of India of the one part and the East Indian Railway Company, incorporated by an Act of Parliament passed in the Session of the 12th and 13th years of the reign of Her present Majesty, intituled "An Act for incorporating the East Indian Railway Company, and for other purposes connected therewith," of the other part.

Whereas, by the East Indian Railway Company Purchase Act, 1879, herein-after called "the Act of 1879," the parties hereto are authorized and empowered to enter into Contracts for the purposes herein-after expressed.

Now this Indenture witnesseth and it is hereby agreed and declared as follows:—

Interpretation of terms.

1. In this Contract

The expression "the Secretary of State" means the Secretary of State in Council of India.

The expression "the Company" means the East Indian Railway Company.

The expression "the East Indian Railway" means the railways and works of whatever description forming the undertaking of the Company on the 31st of December 1879.

The expression "the undertaking" means the East Indian Railway, or such part thereof as shall on the 1st of January 1880 be handed over to the Company for the purposes of this Contract, together with any improvements, alterations, and additions of whatever description that may from time to time be made therein or thereto, by or with the sanction of the Secretary of State.

Duration of Contract.

2. This Contract shall continue in force for the period of fifty years from the 1st of January 1880, subject to the provisions herein-after contained for determining the same.

As to deferring one fifth of the annuity.

3. During the continuance of this Contract the payment of one fifth of the annuity of 1,473,750*l.*, mentioned in the Act of 1879, shall be deferred, and in lieu thereof interest at the rate of 4*l.* per cent. per annum on the sum of 6,550,000*l.*, being the capital sum represented by such one fifth, shall be paid by the Secretary of State to the Company in London, by half-yearly payments, on the 1st of January and the 1st of July in every year, the first of such payments to be made on the 1st of July 1880, in respect of the half year immediately preceding that date.

As to the undertaking to be transferred to the Company, and matters connected therewith.

4. On the 1st of January 1880 the Secretary of State shall hand over to the Company, for the purposes of this Contract, the East Indian Railway, together with the rolling stock, plant, and machinery belonging thereto, subject to the following exceptions:—

(1.) The land occupied by the Company in the Sulkeah Yard at Howrah, now or lately used for the storage of State Railway material, which land shall nevertheless be handed over to the Company if and so soon as the Secretary of State shall obtain the use of other sufficient land for the storage of such material.

(2.) The telegraphs and all telegraphic appliances belonging to the East Indian Railway which shall remain vested in the Secretary of State, subject as herein-after provided.

5. On the 1st of January 1880, or so soon thereafter as may be, the Secretary of State shall deliver to the Company, and the Company shall accept, for the purposes of the undertaking, all stores belonging to the East Indian Railway that may be in hand or in course of delivery on the 1st of January 1880, except such as on the representation of the Company, to be made in writing on or before the 31st day of December 1879, the Secretary of State may adjudge to be unserviceable or surplus stores.

6. During the continuance of this Contract the Secretary of State shall provide and allow the Company to use such telegraphs and telegraphic appliances as the Company shall, with the sanction of the Secretary of State, from time to time require for the purposes of the undertaking, and shall maintain the said telegraphs and telegraphic appliances in good repair and good working condition. The working of the said telegraphs shall be exclusively in the hands of the Company, but the Company, if so directed by the Secretary of State, shall observe the rules for the time being in force in the case of State Railway Telegraphs, or such of the said rules as the Secretary of State may from time to time prescribe for their observance, and the Company shall furnish the Secretary of State with such free passes as he may require for persons employed by him in or about the erection, maintenance, or inspection of the said telegraphs and telegraphic appliances or otherwise in connection therewith.

7. A separate agreement shall be made between the Secretary of State and the Company as to the working of the Serampore and Kurhurballee coal-fields, which are intended to be part of the undertaking. Provided, nevertheless, that the rent payable to Government in respect of the said coal-fields shall not exceed the aggregate of the fixed rents now payable in respect of the same.

8. If the branch railway from the Mogul Serai station on the main line of the East Indian Railway to the River Ganges, opposite Benares, shall be part of the undertaking handed over to the Company on the 1st of January 1880, the Secretary of State may at any time require the Company to retransfer such branch railway to him, and the Company shall not claim any compensation in respect of such retransfer.

9. As soon as may be after the 1st of January 1880, an inventory of the undertaking, and an inventory and valuation of the rolling stock, plant, and machinery belonging thereto as on the 1st of January 1880, shall be made and signed by or on behalf of the Secretary of State and the Company, the valuation being based on the sums outstanding on that day in the capital account of the Company.

As to the maintenance and management of the undertaking.

10. The Company shall keep the undertaking in good repair, in good working condition, and fully supplied with rolling stock, plant, and machinery, to the satisfaction of the Secretary of State. If the Company shall fail for the space of one calendar month to comply with any requirement in writing of the Secretary of State in regard to the matters aforesaid or any of them, the Secretary of State may enter on the undertaking, and execute all such works, and provide all such rolling stock, plant, and machinery as may in his opinion be required for the purposes of the undertaking.

11. The Company shall keep the rolling stock, plant, and machinery belonging to the undertaking in good repair and in good working condition, to the satisfaction of the Secretary of State.

12. The Company shall maintain a sufficient staff for the purposes of the undertaking, to the satisfaction of the Secretary of State.

13. The Secretary of State may from time to time, by notice in writing, require the Company to carry out any alteration or improvement in the undertaking, or any addition thereto that may in his opinion be necessary for the safety of passengers or for the safety of the public, or for the effectual working of the undertaking. Such notice shall specify the alteration, improvement, or addition required, and shall also in general terms describe the works to be executed for the purpose of carrying out such alteration, improvement, or addition. On receiving any such notice, the Company shall, with all reasonable speed, commence and proceed to execute the works described therein, the Secretary of State supplying the necessary funds and providing any land that may be required for the purpose. If in any case the Company shall neglect to proceed with the proposed works, or fail to complete the same to the satisfaction of the Secretary of State, the Secretary of State may enter on the undertaking and execute the said works.

Police.

14. The Secretary of State shall provide and maintain for the purposes of the undertaking such a force of police as the Company, with the approval of the Secretary of State, shall from time to time require, with this qualification, that in case of difference between the Secretary of State and the Company as to the force required for the preservation of law and order, the determination of the question shall rest with the Secretary of State. The cost of providing and maintaining the force of police required for the purposes of the undertaking shall be defrayed in the following manner: that is to say, three tenths shall be borne by the Secretary of State, and the remaining seven tenths shall be treated as part of the working expenses of the undertaking.

As to the use and working of the undertaking, and the conveyance of traffic.

15. The Company shall cause to be run so many trains, at such times, at such rates of speed between such places, and with such conveniences and accommodations, as the Secretary of State shall from time to time require.

16. The Company shall charge such rates and fares for the carriage of goods and passengers as may from time to time be fixed by the Company, with the approval of the Secretary of State. Provided that the Secretary of State may require the charges for the conveyance of any mineral or mineral substance or any article of agricultural produce over distances not less than 300 miles to be reduced to any rate not below one sixth of a pie per maund per mile for full waggon loads, and may also require the fare of passengers conveyed in closed carriages with seats to be reduced to any rate not below two pies per mile.

17. The Secretary of State may from time to time require the Company to carry out any alteration or improvement in the working of the undertaking that may in his opinion be necessary for the safety of passengers, or for the safety of the public, or for the effectual working of the undertaking.

18. All services which the Secretary of State may require the Company to perform for the Post Office, the Military Department, the Police Department, or any other Department of the State, or for high Government officials (including in such services the conveyance of mails as defined by the Post Office Act or Acts for the time being in force in India, the conveyance of Post Office servants when on duty, the conveyance of troops and sailors, military and naval establishments, horses, and other animals used for military purposes, guns, military stores and equipments, the conveyance of police, prisoners, and paupers, the conveyance of telegraph stores, instruments, officers and workmen, and of any public stores whatever), shall be performed by the Company on the same general

conditions as may for the time being be in force on State Railways, and at such rates as may be approved by the Secretary of State, not being less than the highest rates in force for the time being for similar services on State Railways of the same gauge.

19. The Company shall convey gold and silver bullion and coin and copper coin belonging to the Government of India and the persons in charge thereof at special rates, to be from time to time approved by the Secretary of State.

20. The Company shall from time to time, upon the requisition of the Secretary of State, give precedence to the demands of the Government, whether for freight or passenger accommodation, over all ordinary traffic.

21. All stores intended to be used for the purposes of the undertaking shall be conveyed by the Company at rates to be approved by the Secretary of State, not being less than the actual cost of conveyance.

As to receipts, payments, and expenditure.

22. All moneys which shall be received by or on account of the Company in India, in respect of the undertaking, or from the use and working of the telegraphs and telegraphic appliances provided for the Company under this Contract, shall, at such times and in such manner as the Secretary of State may from time to time direct, be paid without deduction into the Treasury of the Government of India at Calcutta to a separate account.

23. All moneys required by the Company for the purposes of the undertaking shall be supplied to the Company by the Secretary of State according to such arrangements as shall from time to time be made between the Secretary of State and the Company.

24. All moneys expended by the Company on account of the undertaking, and all other expenses of the Company in connection therewith, shall from time to time be stated and submitted to the Secretary of State for his sanction, and as between the Company and the Secretary of State shall be allowed only so far as the same shall from time to time have been sanctioned by the Secretary of State.

As to accounts.

25. The Company shall keep all such accounts relating to the undertaking, and all such accounts as between the Company and the Secretary of State, as the Secretary of State shall from time to time require. Such accounts shall be kept in such form, and under such heads or divisions, and with such details, as the Secretary of State shall from time to time prescribe. The said accounts so far as the same are kept in India shall be kept in rupees of the Government of India, and so far as they are kept in England shall be kept in sterling money. Such of the said accounts as are kept in England shall from time to time be transmitted by the Secretary of State to the Government of India at Calcutta, and there incorporated in the Accounts of the Company in India, each account for the purpose of such incorporation being converted into rupees at the rate fixed for the adjustment of financial transactions between the Government of the United Kingdom and the Government of India, and in use on the day to which such account shall have been made up.

26. Unless and until otherwise directed, the Company shall keep the following accounts:—

A Revenue Account.
A Capital Advance Account.
A Capital Account.
A Stores Account.

27. The Revenue Account shall contain an account of all receipts and payments on account of revenue, and shall be made up half yearly to the 30th of June and the 31st of December in each year, or to such other days as the Secretary of State shall from time to time prescribe. The Revenue Account shall be regularly submitted by the Company to the Secretary of State, who may audit the same concurrently with or after expenditure or in both ways, as he may think fit, and may in case of any error being discovered therein correct the same within three calendar months after the account containing such error shall have been submitted to him. Every Revenue Account shall be considered as settled at the expiration of three calendar months after the same shall have been submitted to the Secretary of State, but nevertheless, any error which may subsequently be discovered therein shall be corrected in the next Revenue Account, or in any subsequent Revenue Account or Accounts as the Secretary of State may determine.

28. All moneys advanced by the Secretary of State for the purpose of carrying out works chargeable to Capital, or for the purchase of stores, or for the payment off of debentures or debenture stock of the Company, shall be entered in the Capital Advance Account, and interest at the rate of 4½ per cent. per annum, or such other rate as shall from time to time be agreed upon by the Secretary of State and the Company, shall from time to time be payable to the Secretary of State on the balance of such account not passed to the Capital Account or to the Stores Account.

29. All moneys which the Secretary of State shall pay to the Company in respect of the interest of the Company in the value of the buildings, workshops, fixtures, machinery, and plant on the said Kurhurballee and Serampore coal-fields, and all moneys which shall be actually expended by the Company or by the Secretary of State upon works, rolling stock, plant, or machinery, the cost of which is chargeable to Capital, and the value of all land provided by the Secretary of State after the 1st of January 1880 for the purposes of the undertaking, shall be entered in the Capital Account which shall be made up and stated afresh as often as occasion shall require. Interest at the rate of

4½ per cent. per annum, or such other rate as shall from time to time be agreed upon by the Secretary of State and the Company, shall from time to time be payable to the Secretary of State on the balance from time to time standing at the debit of the Capital Account.

30. The Company shall, on or before the 30th of June 1880, make up and deliver to the Secretary of State on account of all stores delivered to the Company as on the 1st of January, 1880, and of the value of such stores, the value being taken as entered in the books of the Company on the 31st of December, 1879, except in those cases, if any, in which a different value shall be agreed upon by the Secretary of State and the Company. As soon as possible after the 30th of June and the 31st of December in each year, or such other half-yearly days as the Secretary of State may from time to time prescribe for the making up of the Revenue Account, the Company shall make up and deliver to the Secretary of State an account of all stores in hand on the half-yearly day immediately preceding the making up of the Account, and of all stores used by the Company for the purposes of the undertaking since the 1st of January, 1880, or since the date to which the Stores Account was last made up, as the case may be, showing the purposes for which such stores have been used. As often as any of the stores in hand shall be used by the Company for the purposes of the undertaking, the value of the stores so used as entered in the books of the Company shall be charged to the Revenue Account or to the Capital Account, as the case may require, in accordance with the provisions in that behalf herein contained. Interest at the rate of 4½ per cent. per annum, or such other rate as shall from time to time be agreed upon by the Secretary of State and the Company, shall from time to time be payable to the Secretary of State on the value of stores in hand.

31. The stores in hand shall from time to time be revalued at such time or times as the Secretary of State shall direct, and in such manner as shall from time to time be agreed upon by the Secretary of State and the Company, and the value of the stores in hand as entered in the books of the Company shall be corrected in accordance with such revaluation. Any deterioration or loss that may be ascertained or discovered upon any revaluation shall be charged to Revenue Account.

32. The question whether any expenditure incurred for the purposes of the undertaking is to be treated in the whole or in part as a charge incurred on Capital Account, or how the same is to be dealt with, shall be determined on the general principle that Capital is to bear the cost of new works, of additional rolling stock, plant, and machinery, and of substantial improvements of and additions to old works, rolling stock, plant, and machinery, including the cost of any temporary new work, the construction of which is requisite for the construction of a work properly chargeable to Capital, and that the cost of repairs, restorations, renewals, replacements, or substitutions is to be borne by Revenue. Provided nevertheless that any item of expenditure properly chargeable to Capital in accordance with this principle, but not exceeding 2,000 rupees, may at the discretion of the Secretary of State be charged to Revenue, but so that the aggregate expenditure charged to Revenue on account of such items shall not exceed 25,000 rupees in any half year, and provided also that except with the sanction of the Secretary of State no portion of the salaries or allowances of any of the Company's permanent supervising staff shall be chargeable to Capital, although for the time being employed partly or wholly in directing or superintending work so chargeable, and that no expenses connected with the engagement or passage from or to England of any person in the Company's service shall be chargeable to Capital, unless such person shall have been specially engaged to carry out work chargeable to Capital, and actually employed upon such work.

33. If any difference shall arise between the Secretary of State and the Company as to the incidence of expenditure between Capital and Revenue in any particular case, the matter in difference shall be referred to the decision of the Joint Auditor, if the Secretary of State and the Company shall have appointed such an officer; but in case a Joint Auditor shall not have been appointed, then the matter in difference shall be referred for final decision to the Company's Auditor, or some other person to be named by the Company, and a Government Examiner of Railway Accounts, or some other person to be named by the Secretary of State, or in case of their being unable to agree, to a referee to be named by them. The costs of any such reference shall, unless the Secretary of State shall otherwise direct, be treated as part of the working expenses of the undertaking.

As to the working expenses, and the application of the receipts of the undertaking.

34. The working expenses of the undertaking shall be paid out of the gross receipts of the undertaking (including in such receipts all moneys received by the Company from the use and working of the telegraphs and telegraphic appliances provided for the Company under this Contract), and shall so far as possible be borne by the gross receipts of the half year to which such working expenses are properly attributable.

35. Working expenses shall include all costs and expenses incurred by the Company, with the sanction of the Secretary of State, in or about the maintenance, management, and working of the undertaking, and all other sums, if any, proper to be allowed out of Revenue in connection with the maintenance, management, or working of the undertaking, or in connection with the conduct of the affairs of the Company, and which shall be sanctioned by the Secretary of State.

In the working expenses of the undertaking there shall be reckoned:—

(1.) Such sum or sums of money as shall from time to time be agreed upon between the Secretary of State and the Company, as proper to be allowed in respect of the rent of the Company's office in London, office expenses, Directors' fees, and salaries of clerks and servants.

(2.) So much of the cost of providing and maintaining a police force for the purposes of the undertaking as is not hereby agreed to be borne by the Secretary of State.

(3.) All expenditure incurred by the Company with the sanction of the Secretary of State, or by the Secretary of State in keeping the undertaking in good repair and in good working condition, and fully supplied with rolling stock, plant, and machinery, except such part, if any, of such expenditure as may be charged to Capital.

(4.) All expenditure incurred by the Company with the sanction of the Secretary of State in keeping the rolling stock, plant, and machinery belonging to the undertaking in good repair and in good working condition.

(5.) All expenditure incurred by the Company with the sanction of the Secretary of State, or by the Secretary of State, in the execution of any works chargeable to Revenue.

(6.) Such a sum, not exceeding 50,000 rupees in any half year, as may be required by the Secretary of State to cover the costs and charges of and incidental to the supervision and control of the Company by the Secretary of State.

(7.) The charges of the Government Telegraph Department for rent, maintenance, and inspection of the telegraphs and telegraphic appliances provided for the use of the Company.

(8.) All such other expenses as the Secretary of State and the Company agree to treat as part of the working expenses of the undertaking.

36. The receipts of the undertaking in each half year, after deducting working expenses and all other charges to Revenue Account properly attributable to that half year, shall be applied in the following manner and in the following order:—

(1.) In payment of interest upon the debenture stock of the Company in existence on the 1st of January 1880, and upon the debentures of the Company outstanding on that day.

(2.) In payment to the Secretary of State of so much of the annuity of 1,473,750*l.* as is not deferred under this Contract.

(3.) In payment to the Secretary of State of interest at the rate of 4 per cent. per annum on the capital sum represented by the portion of the annuity deferred under this Contract.

(4.) In payment of interest payable to the Secretary of State on money standing to the debit of the Capital Advance Account and the Capital Account.

(5.) In payment of interest payable to the Secretary of State on the value of stores in hand.

(6.) In payment of such sum as shall from time to time be payable to the Provident Institution in connection with the undertaking.

(7.) And the surplus, if any, shall be applied in manner following; that is to say, four fifths thereof shall belong to the Secretary of State on behalf of the Government of India, and one fifth thereof shall belong to the Company, and shall as soon as ascertained be forthwith paid over to the Company at Calcutta for distribution among the persons entitled thereto under the Act of 1879.

If in any half-year the net receipts of the undertaking shall not be sufficient to answer the purposes coming before the division of the surplus, the deficiency with interest at the rate of 4½ per cent. per annum shall be a charge upon the surplus net receipts of subsequent half years, and may be retained by the Secretary of State out of the surplus net receipts of any subsequent half year before division of profits between the Secretary of State and the Company.

As to running powers and other facilities and accommodation for other Railway Companies and State Railways and the Secretary of State.

37. The Secretary of State may from time to time require the Company to allow the use of the railways forming part of the undertaking for the passage of engines and trains belonging to other Railway Companies or to State Railways upon the payment of reasonable tolls and under reasonable conditions and restrictions.

38. The Secretary of State may from time to time require the Company to supply other Railway Companies or State Railways with any of the rolling stock of the undertaking which shall not for the time being be required for the purposes thereof, upon reasonable terms and conditions.

39. The Secretary of State may from time to time require the Company to execute work in their workshops, in respect of rolling stock and machinery belonging to State Railways, at such reasonable prices and upon such terms as shall be agreed upon between the Secretary of State and the Company, but so nevertheless as not to impede or unduly interfere with the ordinary operations of the Company as carried on therein.

40. The Secretary of State may from time to time require the Company to land at Howrah or Calcutta railway stores belonging to the Secretary of State. The Company shall be paid for such services at such reasonable rates as shall from time to time be approved by the Secretary of State.

41. The Secretary of State may from time to time require the Company to make reasonable arrangements for the interchange of traffic and rolling stock with railways belonging to other Companies or to the State.

42. The Secretary of State may from time to time require the Company to allow the use of any of the stations forming part of the undertaking, for the accommodation of the traffic of any other Railway Company or State Railway, upon the payment of reasonable tolls, and under reasonable conditions and restrictions, and may also require the Company to make such alterations and additions as may, in the opinion of the Secretary of State, be necessary or convenient for the purposes of such accommodation, upon such terms as may be agreed upon between the Secretary of State and the Company.

43. The Secretary of State may at any time require the Company to make such alterations and additions in or to the sections of the railways comprised in the undertaking situate respectively between the following points, that is to say, between Delhi and Ghazeeabad and between Agra and Toondla, as will admit of metre gauge stock of the Rajpootana State Railway running upon such sections respectively upon such terms as may be agreed upon between the Secretary of State and the Company.

44. If the Chairman or Deputy Chairman of the Board of Directors of the Company shall certify to the Secretary of State, by writing under his hand, that he considers any requirement by the Secretary of State purporting to be made under this part of the Contract not to be reasonable upon any ground to be stated by him in writing, and if there shall then be a difference of opinion between the Secretary of State and the Company as to the reasonableness of the requirement in question or as to the propriety of any modification or alteration therein, the matter in difference shall be referred for decision to an officer of the Government to be named by the Secretary of State and to an officer of the Company to be named by them, or if such officers are unable to agree, then to some person to be appointed by them.

If the matter in difference shall be determined adversely to the Secretary of State, or if any modification or alteration in the requirement of the Secretary of State shall be recommended, or in any event if the Secretary of State shall so direct, the costs of the reference shall be treated as part of the working expenses of the undertaking.

As to the construction and working of auxiliary or branch railways.

45. The Secretary of State may require the Company to construct any auxiliary or branch railway of the same gauge in connection with any railway forming part of the undertaking, and to work any auxiliary or branch railway of the same gauge in connection with any railway forming part of the undertaking, whether constructed by the Company or not, either as agents of the Secretary of State or as part of the undertaking, as the Secretary of State may determine, upon such terms and conditions as may in each case be agreed upon between the Secretary of State and the Company.

The Company to comply with the requirements of the Secretary of State.

46. The Company shall with all reasonable speed comply with all such requirements as the Secretary of State shall from time to time make in accordance with this Contract.

As to the supervision and control of the Secretary of State and the appointment of a Government Director.

47. In all matters relating to the undertaking and not herein specially provided for the Company shall be subject to the surpervision and control of the Secretary of State.

48. For the purpose of inspecting the undertaking and auditing the accounts of the Company, or otherwise exercising such supervision and control as are intended to be reserved to the Secretary of State by this Contract, the Secretary of State may from time to time appoint such person or persons as he may think proper with such powers as he may consider necessary or expedient, and the Company shall afford every person so appointed all reasonable facilities for the purpose of enabling him to perform the duties entrusted to him by the Secretary of State.

49. The Company shall record and keep in proper books full and particular accounts of all their transactions and proceedings, including full and true minutes of all their meetings, meetings of Directors, communications with India, and correspondence, so as at all times to exhibit fully and truly the state of their affairs; and the Secretary of State, or any person or persons appointed by him in that behalf, shall at all reasonable times have free access to all the books, accounts, papers, and documents of the Company relating to the undertaking, with power to call for or make copies of or extracts from the same.

Appointment of Government Director and Deputy Government Director.

50. The Secretary of State may from time to time appoint any one person to be a Director of the Company. The Government Director shall be ex officio a member of all Committees appointed by the Board of Directors of the Company or by the Company in relation to the undertaking, or any matter connected therewith, and he may, moreover, exercise at his discretion an absolute right of veto in all proceedings whatever at the Board of Directors. The Government Director shall not be removeable, except by the Secretary of State. The Secretary of State may from time to time, as often as occasion shall require, appoint a person to represent the Government Director at any meeting of the Board, or at any Committee meeting at which the Government Director may not be present; and the person so appointed shall have all such rights, and may exercise all such powers as the Government Director, if present, would have had or might have exercised.

Miscellaneous provisions.

51. The Company shall not during the continuance of this Contract, without the sanction of the Secretary of State in writing first obtained, engage in or carry on any business other than the business which is the subject of this Contract.

Acquisition of property.

52. The Company shall not during the continuance of this Contract, without the sanction of the Secretary of State in writing first obtained, acquire any property in India. If the Company shall in contravention of this clause acquire any property, such property shall not be disposed of by the Company without the sanction in writing of the Secretary of State, and the Secretary of State may at any time during the continuance of this Contract, or within one calendar month after the determination thereof, purchase such property from the Company at the price actually paid by the Company for the same; and if the purchase money for such property shall be paid to the Company during the continuance of this Contract the expenditure shall be carried to Capital Account.

53. If in the opinion of the Secretary of State any land in the possession of the Company is not required for the purposes of the undertaking, the Secretary of State shall certify such his opinion to the Company. Upon receipt of such certificate, or so soon thereafter as may be, the Company shall state in writing whether they acquiesce in the opinion of the Secretary of State, or whether they object thereto, and if so the grounds of their objection. If no objection is stated by the Company, or if the grounds of their objection, if any, are not in the opinion of the Secretary of State sufficient, the land in question shall upon the requisition of the Secretary of State be restored to him, and thereupon the value of such land, if entered in the Capital Account, shall be written off such Account. Restriction of land.

54. The Company shall from time to time make such returns and furnish such statistics in such form and under such heads and divisions, and with such details, as the Secretary of State may from time to time require. The cost of preparing such returns and statistics and incidental thereto shall be treated as part of the working expenses of the undertaking. Statistics.

55. The Secretary of State shall promote the passing, by the legislature in India, of any Act or Acts which may be required to enable the Company to carry into effect this Contract. Promotion of Acts by India Legislature.

56. No claim shall be made upon the Secretary of State by the Company for compensation in respect of any Act of the Indian legislature of general applicability which may prejudicially affect the undertaking or the profits thereof.

57. The Company may, if they think it expedient, and shall if required by the Secretary of State, maintain and manage a Provident Institution and a Savings Bank for the benefit of the servants of the Company, upon such terms and under such rules and regulations as shall from time to time be approved by the Secretary of State. Provident Fun and Savings Bank.

58. Any notice, direction, requisition, appointment, certificate of opinion, approval, or sanction to be given or signified on the part of the Secretary of State for any of the purposes of this Contract shall be sufficient and binding if in writing, signed by the Secretary of State or one of his Under Secretaries, or by a Secretary of Government at Calcutta, or by any other officer or servant duly authorized to act on behalf of the Secretary of State in respect of the matters to which the same shall relate; and the Secretary of State shall not in any case be bound in respect of the matters aforesaid, unless by some writing signed in the manner before mentioned. Notices under this Contract.

59. The Company shall at all times during the continuance of this Contract keep an office established at Calcutta, and shall keep at the said office an authorized Agent or Committee of Agency, with whom the Secretary of State and the Government of India, or other officer or officers deputed in that behalf, may communicate on affairs concerning the undertaking, and all drafts drawn and receipts given by the said Agent or Committee of Agency, or under his or their authority on behalf of the Company concerning the undertaking and the affairs thereof, shall be binding on the Company, and every notice to be given to the Company (save any notice with respect to the determination of this Contract as herein-after provided) shall be sufficiently given if left at the said office, or personally served on the said Agent, or any member of the said Committee of Agency. Office at Calcutta.

60. The Secretary of State or the Company may determine this Contract at the end of the 20th or at the end of any succeeding fifth year (computed from the 1st of January 1880) of the said term of fifty years, on giving two clear years' notice in writing to the other party hereto of his or their intention so to do, and thereupon, on the 31st day of December on which the aforesaid notice shall expire, the Company shall give the Secretary of State possession of the undertaking, together with the rolling stock, plant, and machinery belonging thereto, and all stores in hand or in course of delivery on that day, and all plans, books, surveys, sections, printings, writings, and documents whatsoever in anywise connected with the undertaking, and all other property, if any, belonging or appertaining thereto. And the Secretary of State shall be bound to indemnify the Company, their property and effects, against all such debts and liabilities, if any, as they may have incurred with the sanction of the Secretary of State, and which shall be then subsisting, and thereupon this Contract shall determine without prejudice to the rights of either party against the other in respect of any covenant herein contained, which may have been previously broken. As to the determination of the Contract.

61. If the Secretary of State and the Company shall fail to agree touching any matter with respect to which their agreement is required by this Contract, or if in any case not herein specially provided for, any dispute, question, or controversy shall at any time arise between the Secretary of State and the Company touching these presents, or any clause or thing herein contained, or the construction hereof, or any matter connected with these presents, or the operation hereof, or the rights, duties, or liabilities of either party in relation to the premises, then and in every such case the matter as to which the Secretary of State and the Company shall fail to agree, or the matter in difference, as the case may be, shall be referred to two arbitrators or their umpire, pursuant to and so as with regard to the mode and consequences of the reference, and in all other respects to conform to the provisions in that behalf contained in the Common Law Procedure Act, 1854, or any subsisting statutory modification thereof, and upon every such reference the arbitrators and umpire shall respectively have power to examine witnesses upon oath or affirmation, and either to fix, settle, and determine the amount of costs of the reference and award respectively or incidental thereto to be paid by both parties or by either party, or to direct the same to be taxed either as between solicitor and client or otherwise, and to direct and award where and by and to whom such costs shall be paid; and every or any such reference may be made a rule of Her Majesty's High Court of Justice, Arbitration.

or of the High Court of Judicature at Fort William in Bengal, on the application of the Secretary of State or of the Company, and either the Secretary of State or the Company may instruct Counsel to consent thereto for the other party.

In witness whereof, Sir Barrow Helbert Ellis, Knight Commander of the Most Exalted Order of the Star of India, and Sir Frederick James Halliday, Knight Commander of the Most Honourable Order of the Bath, being two Members of the Council of India, have hereunto set their hands and seals, and the said Railway Company have hereunto caused their Common Seal to be affixed, the day and year first above written.

Signed, sealed, and delivered by the above-named Sir Barrow Helbert Ellis and Sir Frederick James Halliday, being two Members of the Council of India in the presence of—
Robert Wickenden,
Clerk to the Legal Adviser, India Office.

B. H. ELLIS. (L.S.)
FRED. JAS. HALLIDAY. (L.S.)

The Common Seal of the East Indian Railway Company was hereunto affixed in the presence of—
R. Macdonald Stephenson.
T. Douglas Forsyth.

(Seal of the East Indian Railway Company.)

No. II.

THE INDIAN RAILWAY ACT, 1879.

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ACT No. IV. OF 1879.

PASSED BY THE GOVERNOR GENERAL OF INDIA IN COUNCIL.

(Received the assent of the Governor General on the 13th March 1879.)

An Act to consolidate and amend the Law relating to Railways in India.

Whereas it is expedient to consolidate and amend the law relating to railways in India; it is hereby enacted as follows:— Preamble.

CHAPTER I.

PRELIMINARY.

1. This Act may be called "The Indian Railway Act, 1879." Short title.

It extends to the whole of British India, and, so far as regards subjects of Her Majesty the Empress of India, to the dominions of Princes and States in India in alliance with Her said Majesty: Local ex[illegible]

And it shall come into force on the first day of July 1879. Commencement.

2. On and from that day, the Acts specified in the first schedule hereto annexed shall be repealed. Repeal of [illegible]

All rules made, notifications published, and powers conferred under any of such Acts, or any enactment thereby repealed, shall (so far as they are consistent herewith) be deemed to have been respectively made, published, and conferred under this Act.

Nothing in the Carriers Act, 1865, shall apply to carriers by railway.

3. In this Act, unless there be something repugnant in the subject or context,—

"Railway" means a railway for the public conveyance of passengers or goods. It includes—

(a) All land within the fences or other boundary marks prescribed under section fifty-two;
(b) All lines of rail, sidings, or branches worked over for the purposes of, or in connection with, a railway;
(c) All stations, offices, warehouses, fixed machinery, and other works constructed for the purposes of, or in connection with, a railway;
(d) All vessels and rafts used for the purpose of carrying on the traffic of a railway.

In section four, "railway" includes a railway under construction, and in the remaining part of this section and in the following sections (namely), six, eight, sixteen, twenty-five, thirty, thirty-three, thirty-four, forty to forty-six (both inclusive), fifty-two, and fifty-three, "railway" includes a railway under construction and a railway not used for the public conveyance of passengers or goods:

"Railway administration" means, in the case of a railway worked by Government or a Native State, the manager of such railway, and in the case of a railway worked by a Company or private individual, such Company or individual: "Railway administration."

"Railway servant" means any person employed by a railway administration to perform any function in connection with a railway, and in section twenty-five, last clause, sections twenty-six, twenty-seven, thirty-eight, and forty-two includes any person employed to perform any such function by any other person in execution of a contract into which he has entered with a railway administration. "Railway servant."

It shall be lawful, with the previous sanction of the Governor General in Council, to use on every railway locomotive engines or other motive power, and carriages and wagons to be drawn or propelled thereby.

CHAPTER II.

Duties of the Railway Administration.

5. No railway, or portion, or extension of, or addition to, a railway shall be opened for the public conveyance of passengers until the railway administration has given to the Governor General in Council notice in writing of the intention of opening the same, and until an officer appointed by the Governor General in Council to inspect such railway, portion, extension, or addition has, after inspection thereof, reported in writing to the Governor General in Council that in his opinion the opening of the same would not be attended with danger to the public using the same.

6. Every railway administration shall, within forty-eight hours after the occurrence upon the railway of—

(a) Any accident attended with loss of human life or serious injury to person or property;
(b) Any accident of a description usually attended with such loss or injury, and
(c) Any accident of any other description which the Governor General in Council may from time to time direct to be notified,

give notice thereof to the Local Government; and the station-master nearest to the place at which the accident occurs, or, where there is no station-master, the officer in charge of the section of the railway on which the accident occurs, shall, without unnecessary delay, give notice in writing or by telegraph of such accident to the nearest magistrate and to the officer in charge of the police station in the jurisdiction of which the accident occurs, or to such other magistrate and police officer as the Local Government from time to time appoints in this behalf.

7. Every railway administration shall make up and deliver to the Governor General in Council a return of accidents occurring in the course of the public traffic upon the railway, whether attended with personal injury or not, in such form and manner, and at such intervals of time, as the Governor General in Council from time to time directs.

8. Every railway administration shall make general rules for the following purposes (that is to say)—

(a) For regulating the mode in which, and the speed at which, carriages and wagons used on the railway are to be moved or propelled;
(b) For regulating the maximum number of passengers which each carriage and compartment may carry, and the mode in which such number shall be denoted thereon;
(c) For regulating the provision to be made for the accommodation and convenience of passengers;
(d) For declaring what shall be deemed to be, for the purposes of this Act, dangerous goods; and
(e) Generally for regulating the travelling upon, and the use, working, and management of the railway;

and may, from time to time, alter any such rules.

Any such rule may contain a provision that any person committing a breach of it shall be liable to a fine which may extend to fifty rupees or, in default of payment of such fine, to simple imprisonment for a term which may extend to two months.

No such rule shall take effect unless it is consistent with this Act and until it has received the sanction of the Governor General in Council.

All rules made under this section shall be published in the "Gazette of India," and shall be otherwise notified to the railway servants and the public in such manner as the Governor General in Council from time to time directs.

The Governor General in Council may at any time cancel any such rule.

9. An abstract of this Act, and a copy of the time-tables and tariff of charges which may, from time to time, be published for any railway by any railway administration, shall be exhibited in some conspicuous place at each station of such railway, so that they may be easily seen and read.

All such documents shall be so exhibited in English and in the principal vernacular language of the district in which the station is situate, and in such other language, if any, as the Governor General in Council may direct.

CHAPTER III.

Carriage of Property.

10. Every agreement purporting to limit the obligation or responsibility imposed on a carrier by railway by the Indian Contract Act, 1872, sections 151 and 161, in the case of loss, destruction, or deterioration of, or damage to, property, shall, in so far as it purports to limit such obligation or responsibility, be void, unless—

(a) It is in writing, signed by or on behalf of the person sending or delivering such property, and
(b) Is otherwise in a form approved by the Governor General in Council.

11. When any property mentioned in the Second Schedule hereto annexed is contained in any parcel or package delivered to a carrier by railway, the carrier shall not be liable for loss, destruction,

as deterioration or damage to such property, unless at the time of delivery the value and nature thereof have been declared by the person sending or delivering the same, and an increased charge for the safe conveyance of the same, or an engagement to pay such charge, has been accepted by some railway servant specially authorized in this behalf.

When any property of which the value and nature have been declared under this section has been lost, destroyed, or damaged, or has deteriorated, the compensation recoverable for such loss, destruction, damage, or deterioration shall not exceed the value so declared.

12. A carrier by railway shall in no case be answerable for loss, destruction, or deterioration of or damage to any passenger's luggage, unless a railway servant has booked and given a receipt for the same.

13. In any suit against a carrier by railway for compensation for loss, destruction, or deterioration of or damage to property delivered to a railway servant, it shall not be necessary for the plaintiff to prove in what manner such loss, destruction, deterioration, or damage was caused.

14. If any person fails to pay on demand any sum due by him to a carrier by railway for conveyance of any property by railway, or for the custody of any property, or for demurrage or wharfage or respect of the same, the railway administration may detain the whole or any part of such property, or if the same have been removed from the railway, any other property of such person then on such railway or thereafter coming into the possession of the railway administration; and may also sell by public auction, in the case of perishable property at once, and in the case of other property on the expiration of at least fifteen days' notice thereof published in one or more of the local newspapers, or where there are no such newspapers in such manner as the Local Government may from time to time direct, sufficient of such property to produce the sum payable as aforesaid, and all charges and expenses of such detention, notice, and sale, or if such person fails to remove from the railway within a reasonable time any property so detained, the whole of such property; and may, out of the proceeds of the sale, retain the sum so payable, together with all charges and expenses aforesaid, rendering the surplus, if any, of such proceeds, and so much of the property (if any) as remains unsold, to the person entitled thereto; or such carrier may recover any such sum by suit.

15. The owner or person having the care of any property which has been carried upon any railway, or is brought into any station or warehouse for the purpose of being carried upon a railway, shall on demand by any railway servant appointed in this behalf by the railway administration, deliver to him an exact account in writing signed by such owner or person of the quantity and description of such property.

16. No passenger shall take with him on a railway, and no person shall deliver or tender for carriage upon any railway, any dangerous luggage or goods without giving notice of their nature to a railway servant; or, in the case of luggage or goods delivered or tendered for carriage, distinctly marking their nature on the outside of the package containing the same.

Any railway servant may refuse to carry upon a railway any luggage or parcel which he suspects to contain dangerous goods, and may require such luggage or parcel to be opened to ascertain the fact previously to carrying the same; and in case any such luggage or parcel is received for the purpose of being carried upon a railway, any railway servant may stop the transit thereof until he is satisfied as to the nature of its contents.

CHAPTER IV.

CARRIAGE OF PASSENGERS.

17. Every person desirous of travelling on a railway shall upon payment of his fare be furnished with a ticket, specifying in English and the principal vernacular language of the district in which the ticket is issued the class of carriage for which and the place from and place to which the fare has been paid, and the amount of such fare; and every passenger shall when required shew his ticket to any railway servant duly authorized to examine the same, and shall deliver up such ticket upon demand to any railway servant duly authorized to collect tickets.

18. At the intermediate stations, the fares shall be deemed to be accepted and the tickets furnished only upon condition that there be room in the train for which the tickets are furnished. In the case there is not room for all the passengers to whom tickets have been furnished, those who have obtained tickets for the longest distance shall have the preference, and those who have obtained tickets for the same distance shall have the preference according to the order in which they have received their tickets: Provided that all officers and troops of Her Majesty on duty, and all other persons on the business of the Government, who by virtue of any contract with the Government, or in the case of a railway worked by Government, of any direction of the Governor General in Council, are entitled to be conveyed on a railway in preference to or in priority over the public, shall be entitled to such preference and priority without reference to the distance for which or the order in which they have received their tickets.

Any passenger to whom a ticket has been furnished at any station and for whom there is no room shall, on returning the ticket within a reasonable time after its issue, be entitled to have his fare at once refunded.

19. Except with the permission of the railway administration or of such officers as appointed in this behalf, no person shall enter any carriage used on any railway for the purpose of travelling therein without having paid the fare due and obtained a ticket.

20. Any passenger found suffering from any infectious disease in a railway carriage, or in any part of a railway may, if the remaining in such carriage or place is likely to spread the infection of such disease, be removed from such carriage or place by any railway servant, and any passenger so removed who has paid his proper fare to or at the place at which he is so removed shall be entitled on returning his ticket to have such fare refunded.

CHAPTER V.

OFFENCES AND PROSECUTIONS.

(A.)—Offences by the Railway Administration.

21. Any railway administration opening in contravention of section five any railway or any portion or extension of or addition to a railway, shall forfeit to Government the sum of one thousand rupees for every day during which the same continues open in contravention of that section.

22. Any railway administration omitting to give notice as required by section six shall forfeit to Government the sum of one hundred rupees for every day during which such omission continues.

23. Any railway administration failing to deliver any return mentioned in section seven within one month after the same ought to be delivered, or to make or notify any rule as required by section eight, or to exhibit any abstract or copy mentioned in section nine in manner required by that section, shall forfeit to Government the sum of fifty rupees for every day during which such failure continues.

(B.)—Offences by Railway Servants.

24. Any station-master or other person omitting to give notice as required by section six shall be punishable with fine which may extend to fifty rupees.

25. Any railway servant who is in a state of intoxication whilst actually employed on a railway or in the discharge of any duty, or who negligently omits to perform his duty or to perform the same in an improper manner, shall be punishable with fine which may extend to fifty rupees; and if the duty in any of the cases aforesaid be such that the negligent omission or improper performance thereof would be likely to endanger the safety of any person travelling or being upon such railway, such servant shall be punishable with imprisonment for a term which may extend to one year, or with fine, or with both.

26. If any railway servant in the discharge of his duty endangers the safety of any person

(1) by disobeying any general rule sanctioned and published and notified in the manner described by section eight; or

(2) by disobeying any rule or order not inconsistent with the general rules aforesaid and which such servant was bound by the terms of his employment to obey and of which he had notice; or

(3) by any rash or negligent act or omission;

he shall be punished with imprisonment for a term which may extend to three years, or with fine which may extend to five hundred rupees, or with both.

27. Every railway servant shall be deemed a "public servant" within the meaning of sections 161, 162, 163, 164 and 165 of the Indian Penal Code.

In the definition of legal remuneration contained in the said section 161, the word "Government" shall, for the purposes of this section, be deemed to include any employer of a railway servant as such.

28. Any railway servant who compels or attempts to compel any passenger to enter a carriage or compartment containing the maximum number of passengers allotted thereto in accordance with a rule made and notified under section eight, shall be punishable with a fine which may extend to one hundred rupees.

(C.)—Offences by Persons generally.

29. Any person required under section fifteen to give an account of the quantity and description of any property who neglects or refuses to give such account, or who wilfully gives a false account, shall be punishable with fine which may extend to five rupees for every quarund (or 2,240 lbs.) of such property, and such fine shall be in addition to any charge to which such property may be liable.

30. Whoever, in contravention of section sixteen, takes with him any dangerous goods on a railway, or delivers or tenders any such goods for the purpose of being carried upon a railway, shall be punishable with fine which may extend to two hundred rupees.

31. Any passenger travelling on a railway without a proper ticket, or having such a ticket and not showing, or refusing to give up the same when so required under section seventeen, shall be liable to pay the fare of the class in which he is found travelling, from the place whence the train originally

started, unless he can prove that he has travelled a less distance only, in which case he shall be liable to pay the fare of the place aforesaid only from the place whence he has travelled.

Every such fare shall on application by a railway servant to a magistrate, and on proof of the passenger's liability, be recoverable from such passenger as if it were a fine and shall, when recovered, be paid to the railway administration.

Or defrauding up ticket.

32. Any person who defrauds, or attempts to defraud, any carrier by railway—

For evading payment of fare.

(a) By travelling, or attempting to travel, on any railway without having previously paid his fare;

(b) By riding or attempting to ride in or on a carriage, or by a train, of a higher class than that for which he has paid his fare;

(c) By using or attempting to use a ticket on any day for which such ticket is not available;

(d) By continuing his journey in or upon any carriage beyond the place to which he has paid his fare, without previously paying the fare for the additional distance; or who, in any other manner whatever, attempts to evade the payment of his fare; or who wilfully alters or defaces his ticket so as to render the date, number, or other material portion thereof illegible, shall be punished with fine which may extend to fifty rupees, and shall also be liable to pay the fare (if any) which he ought to have paid; and such fare shall be recoverable in manner provided by section thirty-one, and shall, when recovered, be paid to the railway administration.

For altering ticket.

33. Any passenger who gets into or upon, or attempts to get into or upon, or quits, or attempts to quit, any carriage upon any railway, while such carriage is in motion, shall be punished with fine which may extend to twenty rupees; and any passenger who rides, or attempts to ride, on the roof of any other part of a carriage, upon any railway, except on those parts which are intended for the accommodation of passengers, shall be punished with fine which may extend to fifty rupees.

For entering carriage or quitting.

For riding on the roofs.

34. Any person who, without the permission of the railway administration, rides or attempts to ride upon any locomotive engine or tender upon any railway, or in or upon any vehicle not appropriated to the carriage of passengers, shall be punished with fine which may extend to one hundred rupees.

For riding on a carriage or tender.

35. Any person who, without the consent of his fellow passengers, if any, in the same compartment, smokes in or upon any railway carriage, except in a carriage or compartment specially provided for the purpose, shall be punished with fine which may extend to twenty rupees; and any person who persists in so smoking (except as aforesaid) after being warned by any railway servant to desist may, in addition to incurring the liability above mentioned, be removed by any railway servant from any such carriage, and from the premises of the railway, and, where he has paid his fare and obtained a ticket, shall forfeit such fare and ticket.

For smoking.

36. Any person who is in a state of intoxication, or who commits any nuisance or act of indecency in any railway carriage, or upon any part of any railway, or who wilfully and without lawful excuse interferes with the comfort of any passenger, or extinguishes any lamp in any railway carriage, shall be punished with fine which may extend to fifty rupees, and may be removed by any railway servant from any such carriage, and also from the premises of the railway, and, where he has paid his fare and obtained a ticket, shall forfeit such fare and ticket.

For intoxication and nuisance.

37. If any carriage, compartment, room or place be reserved by the railway administration for the exclusive use of females, any male person who, without lawful excuse, enters such carriage, compartment, room, or place, knowing the same to be reserved as aforesaid, or remains therein after having been informed of its having been so reserved, shall be punished with fine which may extend to one hundred rupees, and may be removed therefrom, and also from the premises of the railway, by any railway servant, and, where he has paid his fare and obtained a ticket, shall forfeit such fare and ticket.

For entering carriage or room reserved for females.

38. Whoever wilfully obstructs or impedes any railway servant in the discharge of his duty shall be punished with fine which may extend to one hundred rupees.

For obstructing railway servant in his duty.

39. Any passenger wilfully entering a carriage or compartment containing the maximum number of passengers which has been denoted thereon in accordance with a rule made and notified under section eight, shall be punished with fine which may extend to one hundred rupees.

For entering carriage already full.

40. Any person who, without authority or reasonable excuse, makes, alters, shows, hides, removes, or extinguishes any signal or light upon any railway, or upon any engine, carriage, wagon, or other vehicle upon a railway, or who negligently damages any engine, carriage, wagon, or other vehicle belonging to a railway, or any warehouse, building, machine, fence, or other thing so belonging; or who wilfully interferes with the means of communication provided in any train between the guard and the engine-driver or passengers, shall be punished with fine which may extend to one hundred rupees.

For removing signals or injuring carriages.

41. Any person who unlawfully enters upon a railway shall be punished with fine which may extend to twenty rupees; and if any person so entering refuses to leave such railway on being requested to do so by any railway servant, or by any other person on behalf of the railway administration, he shall be punished with fine which may extend to fifty rupees, and may be immediately removed from such railway by such servant or other person as aforesaid.

For trespass by entering or leaving by railway.

42. The owner or person in charge of any bulls, cows, bullocks, calves, elephants, camels, buffaloes, horses, mares, geldings, ponies, colts, fillies, mules, asses, pigs, rams, ewes, lambs, goats and kids, straying on any railway provided with fences suitable for the exclusion of such animals shall be punished with fine which may extend to ten rupees for each animal, in addition to any amount that may be recovered under the Cattle Trespass Act, 1871.

Whenever any such animals are wilfully and unlawfully driven or knowingly and unlawfully permitted to be, on any railway provided with fences suitable for the exclusion of such animals, and whenever any such animals are wilfully driven or knowingly permitted to be on any railway not so provided, otherwise than for the purpose of lawfully crossing the railway or for any other lawful purpose, the person in charge of such animals, or if he cannot be identified, then the owner of the said animals, shall be punished with fine which may extend to fifty rupees for each animal, in addition to any amount that may be recovered under the same Act. All fines imposed under this section may, if the convicting magistrate so direct, be recovered in manner provided by section twenty-five of the said Cattle Trespass Act, 1871, and may be appropriated in whole or in part in compensation for loss or damage proved to his satisfaction. The expression "public road" in sections eleven and twenty-six of the same Act shall be deemed to include a railway. And any railway servant may exercise the powers of seizure provided by the said section eleven.

43. Whoever knowing or having reason to believe that any engine or train is approaching along a railway opens any gate which the railway administration has set up on either side of the railway across any road for the use or accommodation of any person, or passes or attempts to pass or drives or takes, or attempts to drive or take, any vehicle, animal, or other thing across the railway, and whoever at any time, in the absence of a gate-keeper, omits to shut and fasten such gate as soon as he and any vehicle, animal, or other thing under his charge have passed through the same, shall be punished with fine which may extend to fifty rupees.

44. Whenever any minor under twelve years of age unlawfully —

(*a*) Places or throws, or attempts to place or throw, upon or across a railway any wood, stone or other thing, or

(*b*) Removes or displaces, or attempts to remove or displace, any rail, sleeper, bridge, key, or other thing belonging to the permanent way of a railway, or

(*c*) Throws or causes to fall, or attempts to throw or cause to fall against, into or upon any engine, tender, carriage or other vehicle used upon a railway any wood, stone or other thing,

such minor shall be deemed guilty of an offence, and the convicting magistrate may in his discretion, direct either that the minor, if a male, shall be punished with whipping, or that the father or guardian of the minor shall, within such reasonable time as the magistrate may fix, execute a bond binding himself, in such penalty as the magistrate may direct, to prevent the minor from repeating such offence. The amount of such bond, if forfeited, shall be recoverable as if it were a fine. Any person neglecting or refusing to execute a bond when required under this section so to do shall be punished with fine which may extend to fifty rupees.

45. Whoever wilfully does any act or wilfully omits to do what he is legally bound to do intending by such act or omission to endanger, or knowing that he is thereby likely to endanger the safety of any person travelling or being upon any railway, shall be punished with imprisonment (or in the case of an European or American, penal servitude) for a term of not less than seven years, or with imprisonment for a term which may extend to ten years.

46. Whoever rashly or negligently does any act or omits to do what he is legally bound to do, and such act or omission is likely to endanger the safety of any person travelling or being upon a railway, shall be punished with imprisonment for a term which may extend to one year, or with fine, or with both.

47. Every driver or conductor of an omnibus, carriage, or other vehicle shall, while in or upon any station yard or other premises forming part of a railway, obey the reasonable directions of any railway servant duly authorized in this behalf; and every person offending against this section shall be punished with fine which may extend to twenty rupees.

(*D*).—*Arrest of Offenders.*

48. If any person commits any offence punishable under this Act, and there is reason to believe that he will abscond, or his name and address are unknown and he refuses to give his name and address, or there is reason to believe that the name or address given by him is incorrect, any railway servant or police officer, or any other person whom such railway servant or police officer may call to his aid, may, without any warrant or written authority, arrest and detain such offender until he can be taken before a magistrate or give sufficient security for his appearance before such magistrate or be otherwise discharged by due course of law.

49. Every person committing any offence mentioned in sections eight, twenty-three, twenty-five, thirty-six, thirty-seven, thirty-eight, forty-four, forty-five, and forty-six may be arrested without any warrant or written authority by any railway servant or police officer, or by any other person whom such servant or officer may call to his aid; and every person so arrested shall, without unnecessary delay, be taken before a magistrate authorized to punish him or to commit him for trial.

(E.)—*Jurisdiction.*

50. No magistrate other a Presidency magistrate, and a magistrate whose powers are not less than those of a magistrate of the second class, shall try any offence under this Act. Any person committing any offence against this Act, or the rules made under it, shall be triable for such offence in any place in which he may be found or which the Local Government may from time to time notify in this behalf, as well as in any other place in which he might be tried under any law for the time being in force. Every notification under this section shall be published in the local official gazette, and a copy thereof shall also be exhibited in some conspicuous place at each of such railway stations as the Local Government may direct, so that it may be easily seen and read. Magistrates having jurisdiction. Place of trial.

(F.)—*Saving of other Criminal Laws.*

51. Nothing in this Act shall be deemed to prevent any person from being arrested, prosecuted, or punished under any other law for any act or omission which constitutes an offence against this Act or the rules made under it: Provided that no person shall be punished twice for the same offence. Saving of prosecutions under other laws.

CHAPTER VI.

MISCELLANEOUS.

52. The Governor General in Council, or the Local Government with the previous sanction of the Governor General in Council, may from time to time make rules requiring— Power of Government to make rules as to fences, gates, and bars.

(a) That boundary marks or fences be provided for any railway or any part thereof, and for roads constructed in connection therewith;

(b) That gates or bars be erected at places where any railway crosses a road on the level; and

(c) That persons be employed to open and shut such gates or bars;

and may by such rules determine what kind of fences shall, for the purposes of section forty-two, be deemed to be suitable for the exclusion of cattle; and direct that any railway administration wilfully neglecting or violating any rule made under this section shall forfeit to Government a sum not exceeding five hundred rupees for every such neglect or violation, or when such neglect or violation is continuous, for every day during which it continues.

53. The Governor General in Council may from time to time, by notification in the *Gazette of India*, declare what Government or other authority shall be deemed to be, for the purposes of this Act, the Local Government in respect of the whole or any part of a railway. Power to declare Local Government in respect of any railway.

54. The Governor General in Council may, by notification, extend this Act or any portion thereof to any tramway worked by steam. Power to extend Act to steam tramways.

THE FIRST SCHEDULE.

ACTS REPEALED.

(*See Section* 2.)

Number and Year.	Title.
XVIII. of 1854 - - -	An Act relating to Railways in India.
XXXI. of 1867 - - -	An Act to render penal certain offences committed by servants of Railway Companies.
XIII. of 1870 - - -	An Act to apply the provisions of Act No. XVIII. of 1854 to Railways belonging to, or worked by, Government.
XXV. of 1874 - - -	An Act to amend the Railway Act.

THE SECOND SCHEDULE.

(*See Section* 11.)

(a) Gold or silver, coined or uncoined, manufactured or unmanufactured.
(b) Plated articles.
(c) Cloths and tissue and lace of which gold or silver forms part.
(d) Precious stones, jewelry, trinkets.
(e) Watches, clocks, or time pieces of any description.
(f) Government securities.
(g) Government stamps.
(h) Bills of exchange, hundis, promissory notes, bank notes, orders or other securities for payment of money.
(i) Maps, writings, title deeds.

(*i*) Paintings, engravings, lithographs, photographs, carvings, sculpture and other works of art.
(*k*) Glass, china, marble.
(*l*) Silks in a manufactured or unmanufactured state, and whether wrought up or not wrought up with other materials.
(*m*) Shawls.
(*n*) Lace.
(*o*) Opium.
(*p*) Ivory, ebony, sandalwood, sandalwood oil.
(*q*) Musical and scientific instruments.

No. III.

RULES for inquiring into, and reporting on, serious Accidents on State Railways.

GENERAL.

The following Rules are prescribed by the Governor General in Council for inquiring into, and reporting on, serious accidents on State railways, whether open for public traffic or under construction :—

Serious accidents are accidents attended with loss of human life, or serious injury to person or property ; or accidents of a description usually attended with such loss or injury.

2. In the case of any State railway passing through Native States, the Government of India will from time to time, direct what official shall, for the purposes of these rules, be regarded as the magistrate of the district in respect of the portions of the railway situate in each such State.

3. Throughout these rules the words "district superintendent of police" of the district in which the occurrence takes place shall be substituted for the words "railway police superintendent" in respect of State railways whereon a railway police superintendentship has not been established. The word "manager" shall include "engineer-in-chief," or other officer in charge of any State railway.

The officer authorized by Government to investigate and report on accidents is called the "Government inspector."

SECTION I.

Duties of Managers and Railway Officers.

4. On the occurrence of any serious railway accident it shall be the duty of the nearest station master, or where there is no station master, the officer in charge of the section of the railway on which the accident occurs, to give immediate notice thereof in writing or by telegraph when possible—

(*a*) to the nearest magistrate in the district in which the accident occurred ;
(*b*) to the railway police superintendent ;
(*c*) to the officer in charge of the police station in the jurisdiction of which the accident occurred ;

5. It shall be the duty of the manager to give notice of the accident—

(*a*) without delay to the Government inspector who has been authorized by Government to investigate and report on such accidents ;
(*b*) to the Secretary to the Local Government in the Judicial Department within 12 hours after the occurrence in order that the Local Government may, if necessary, watch over the investigation.

6. The manager shall, in cases of serious personal injury, afford medical aid to the sufferers and pay all their expenses while in hospital.

7. The manager shall cause departmental inquiry to be held promptly for the thorough investigation of the causes of every serious accident, and shall require the superintendent of railway police to be present at the inquiry, if possible ; in his unavoidable absence an officer of police should be present. Also he shall communicate the result of the inquiries to the magistrate mentioned in Rule 4, and, if on open line, to the Government inspector, with a statement of the persons against whom the railway authorities intend to prosecute, unless the matter should form the subject of a magisterial inquiry under Rule 8.

8. It shall be the duty of the manager to bring to justice all railway subordinates guilty of crime, or of breaches of the Indian Railway Act, or of the general rules and regulations, calculated to cause serious accident ; and to require the superintendent of railway police to make a report of all cases in which there appears to be ground for suspecting railway subordinates of such misconduct. Also, he shall require the superintendent of railway police to prosecute all persons whom it may be decided should be prosecuted.

9. The manager shall facilitate the movements of the medical officers, the police, the magistrate, the Government Inspector, and others concerned, in reaching promptly the scene of the accident. He shall assist these authorities in conducting inquiries, and depute some responsible and intelligent officer to aid them in obtaining evidence, and securing the attendance of the railway servants.

10. In cases in which it is the duty of the railway officers to arrest any offender under Sections 48 and 49 of Act IV of 1879, or otherwise, the manager shall see that he is at once informed on whom such offender is himself a railway officer, whose removal would cause danger, or grave inconvenience, that precautions are taken to prevent his escape, pending the arrival of a magistrate.

11. He shall arrange for the attendance at the court or place of inquiry of any officer or servant of the railway, upon the requisition of the magistrate or other civil officer.

12. He shall maintain at each railway station, or, in the case of lines under construction, in each divisional office, a list of magistrates, or other officers (such list to be furnished by the magistrate having jurisdiction over the place where the station is situate), to whom reports of accidents should be made; and he shall furnish magistrates with a list of railway officers to whom any summons may be sent for service on subordinate railway servants.

13. In any case of judicial inquiries he shall report the result to his immediate superior, and forward copy of the decision of the Court.

14. He shall report monthly to his immediate superior all railway accidents of a serious nature, and report what steps have been, or are being, taken in order to prevent recurrence of similar accidents.

15. He shall issue such detailed instructions as will give effect to the foregoing rules, and furnish his immediate superior with copy of all such detailed instructions as issued.

SECTION II.

Duties of the Railway and District Police.

16. An investigation may be made by the railway police in the case of any railway accident.

17. Where there is no railway police, the duties imposed by these rules on railway police must be carried out by the district police, in addition to their duties as such.

18. In the case of serious accidents, the railway police superintendent, if any, or the district superintendent of police, shall proceed without delay to the scene of the accident. If either officer be himself unable so to proceed, he shall depute a subordinate, who, in the case of the district police, shall be an assistant superintendent of police where there is one, or where there is no such officer, an inspector. The officer unable to proceed shall also at once inform his departmental superior and the magistrate of the district.

19. Such accident shall forthwith be investigated by the railway police or the district police, as the case may be. If the investigation be made by the railway police, immediate information shall be given to the district police, either direct or through the magistrate of the district. The result of the police investigation, prescribed by this rule, shall be reported to the manager of the railway and to the magistrate of the district.

20. When the investigation is made by the railway police, and officers of the district police arrive on the scene of the accident, the latter shall afford all necessary assistance, and shall, if occasion arises, carry the investigation beyond the limits of the railway premises. But the railway police superintendent, if present, is primarily entrusted with the duty of investigation within such limits. Subject to any provisions elsewhere contained in these rules, the further prosecution of the case on the conclusion of the preliminary local police investigation shall rest with the railway police.

SECTION III.

Duties of Civil Officers.

21. It shall be in the discretion of the magistrate of the district, on receiving information of the occurrence of a serious railway accident within the meaning of Rule 1, either,

(*a*) Himself to proceed to the scene of such accident and make any inquiry ; —

(*b*) To depute a subordinate magistrate to make inquiry ; or

(*c*) To direct investigation to be made by the district police.

22. In all serious cases, it will be the duty of the superintendent of railway police, if any, to proceed without delay to the scene of the accident to conduct this inquiry. If unable to go, he will at once report the fact to the magistrate.

23. The magistrate or other officer shall summon any servant of the railway, and all other persons whose presence he may think necessary, and, after taking the evidence and completing this

inquiry, shall, if he consider there are sufficient grounds for judicial investigation, take the requisite steps to bring to trial any person he may consider criminally liable for the accident.

24. The manager or the magistrate of the district, or the district superintendent of police, may require the civil surgeon of the district or any district medical officer to proceed to the scene of any railway accident attended with personal injury, for the purpose of rendering medical aid and of making, before the investigating authorities, any professional statements that may be required; and it shall be the duty of such civil surgeon or medical officer to proceed accordingly.

25. In cases where technical points are involved, the magistrate or other officer should be careful to call for and take the opinion of professional persons.

26. The result of this preliminary local inquiry will be communicated by the magistrate to the manager of the railway.

27. Should the magistrate have delayed judicial action until receipt of the railway departmental report, he will then decide whether to discharge the persons accused or to proceed with the case.

28. If the manager of the railway do not prosecute the persons considered liable by the civil officer, the magistrate will arrange for their prosecution.

29. If, in the course of the judicial inquiry, the magistrate wishes for the assistance of the Government inspector or manager of the railway, or for the attendance of any officer of the railway to explain or give evidence upon any matter relating to railway superintendence, management, or working, he will issue a requisition to such officers to attend the Court.

30. On the conclusion of the judicial inquiry the magistrate will, if necessary, report the result for the information of the Local Government, and he will send a copy of his decision to the manager of the railway.

31. Magistrates through whose jurisdiction a State railway passes, shall maintain a list of railway officers (such list to be furnished by the manager), for whom summons may be sent for service on subordinate railway servants, and shall furnish the manager with a list of magistrates or other officers to whom reports of accidents should be made.

Section IV.

Government Inspector's Duties.

32. On receiving notice of a serious accident, the Government inspector shall proceed himself or by deputy, to the scene of the accident, shall note the facts, watch the proceedings, and make such inquiries and investigations as he may think fit, calling upon the manager or officers in charge of the line for any assistance needed, and shall form his own conclusions.

33. He shall send his report, with any notes he may desire to record, to the Government concerned, forwarding copy to the manager of the railway or to the magistrate having jurisdiction in British or in Native territory, as the case may be.

34. He shall assist the magistrate so far as he can in person or by deputy in the judicial inquiry whenever called upon to do so.

35. In important cases, where a remedy or change of system appears necessary, he shall inform the Government of India what steps have been, or are proposed, to be taken by the railway to prevent a recurrence of similar accidents, and whether, in his opinion, further action in the matter is desirable.

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inquiry, shall, if he consider there are sufficient grounds for judicial investigation, take immediate steps to bring to trial any person he may consider criminally liable for the accident.

24. The manager or the magistrate of the district, or the district superintendent of police, may require the civil surgeon of the district or any district medical officer to proceed to the scene of any railway accident attended with personal injury, for the purpose of rendering medical aid, and of making, before the investigating authorities, any professional statements that may be required; and it shall be the duty of such civil surgeon or medical officer to proceed accordingly.

25. In cases where technical points are involved, the magistrate or other officer should be empowered to call for and take the opinion of professional persons.

26. The result of this preliminary local inquiry will be communicated by the magistrate to the manager of the railway.

27. Should the magistrate have delayed judicial action until receipt of the railway department report, he will then decide whether to discharge the persons accused or to proceed with the case.

28. If the manager of the railway do not prosecute the persons considered liable by the civil officer, the magistrate will arrange for their prosecution.

29. If, in the course of the judicial inquiry, the magistrate wishes for the assistance of the Government inspector or manager of the railway, or for the attendance of any officer of the railway to explain or give evidence upon any matter relating to railway supervision, management, or working, he will issue a requisition to such officers to attend the Court.

30. On the conclusion of the judicial inquiry the magistrate will, if necessary, report the result for the information of the Local Government, and he will send a copy of his decision to the manager of the railway.

31. Magistrates through whose jurisdiction a State railway passes, shall maintain a list of railway officers (such list to be furnished by the manager), for whom summons may be sent for service on subordinate railway servants, and shall furnish the manager with a list of magistrates or other officers to whom reports of accidents should be made.

Section IV.

Government Inspector's Duties.

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